MYRMECIA

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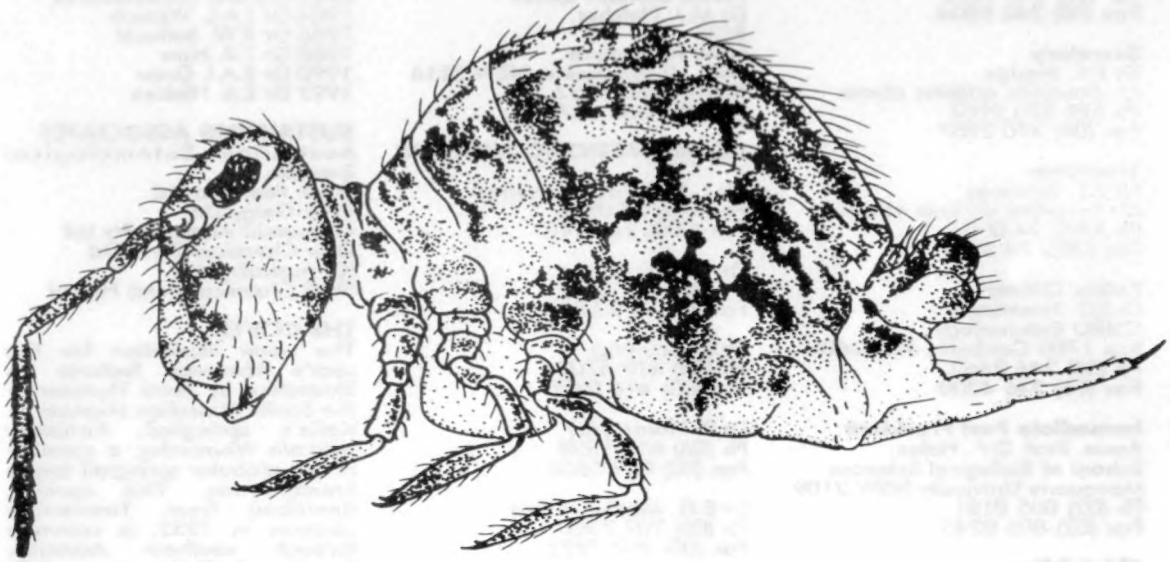

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Dr I.F.B. Common
Dr E.N. Marks
Dr K.R. Norris
Dr C.N. Smithers

MACKERRAS MEDALLISTS

1984 Dr J.A.L. Watson
1986 Dr R.W. Sutherst
1988 Dr T.R. New
1990 Dr R.A.I. Drew
1992 Dr E.S. Nielsen

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Bayer Australia Ltd
Ciba-Geigy Ltd
Cyanamid Australia Pty Ltd
Dow Chemical (Aust) Ltd
ICI Australia Ltd
Shell Chemical (Aust) Pty Ltd

THE COVER

The cover illustration for this year's *Myrmecia* features an illustration by Jenni Thurmer of the South Australian Museum of Katie's springtail, *Katianna australis* Womersley, a member of the globular springtail family Sminthuridae. This species, described from Tasmanian pastures in 1932, is common through southern Australia. Species of *Katianna* normally inhabit native grasses but a small number, including *K. australis* have been able to colonise exotic pastures.

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MYRMECIA

CONTENTS

Note from the Treasurer 1
Note from the Editor 1
Executive Report 2
Conservation Committee Report 3
Proposed changes to Society Constitution and By-Laws 4
Leonard Edgar Couchman 9
ICSU Statement of Gene Patenting 12
Research Grant Report 12
Report on ANIC Tech. Training Course . 17
Regional News
- New South Wales 20
- Western Australia 24
- Queensland 26
- South Australia 32
- Victoria 34
- Australian Capital Territory 36
- Northern Territory 38
- Tasmania 40

Overseas News 41
News from Affiliated Societies 42
Coming Events 42
New Publications 43
Market Place 44
Society Notices 45

Advertising Rates for Myrmecia

	Single Issue	4 Issues (One year)
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Quarter Page	$24	$72

These rates apply to camera-ready copy supplied by the advertiser. Where this is not supplied, an additional charge may be made for the layout. In addition, loose inserts and pamphlets supplied by the advertiser will be included in a mailout for $50 per item. The items should be of a size which will not project beyond the pages of *Myrmecia*.

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

Copy Deadline for Next Issue

Material for publication in the February 1993 issue of *Myrmecia* should be in the hands of the Editor at the address below by Friday 29 January 1993. Submission on IBM-compatible floppy disk in a major word processing format is preferred. Details are available from the Editor.

Murray FLETCHER
News Bulletin Editor
Biological and Chemical Research Institute
PMB 10, Rydalmere, NSW 2116

NOTE FROM THE TREASURER

Please note that your subscription reminder for 1993 is included as a Supplement to this issue of *Myrmecia*. Subscriptions are due on January 1 1993 and the rate increases after March 1st. Some members have not yet paid for 1992 and will receive no further publications from the Society from January unless they bring their membership up to date.

NOTE FROM THE EDITOR

This issue of *Myrmecia* contains more inclusions than the average Sunday newspaper. All the inclusions are of interest to members but some are of particular importance to the Society. Firstly, as noted above, your 1993 subscription notice is included. Please deal with this now. Secondly, the first notice for the Society's 24th AGM and Scientific Conference is included. This should be a great event for the Society and your support will be valuable. Thirdly, financial members of the Society will find a ballot paper and two envelopes, one for the completed ballot paper and one addressed to Ian Naumann, Returning Officer. The proposed changes are detailed on pages 4 to 9. Please read these carefully and cast your vote. Completed ballot papers need to be in the Returning Officer's hands by the 15th January.

Remember - Vote Early and Avoid the Christmas Rush!

EXECUTIVE REPORT

Meetings

The Executive met on 7 August, 4 September and 2 October 1992

New Members

We welcome the following new members:

Elected 7 August 1992

Mr G. FROWD, International House, Locked Bag 8844, South Coast Mail Centre, NSW 2521. Geoff is completing the 4th year of a B.Sc. degree at Wollongong University. He has an interest in the use of satellite imagery in mapping insect damage in forests.

Mr A.I. SHELLEY, St Andrew's College, University of Sydney, NSW 2006. Andrew is a B.Sc. student with interests in the Coleoptera, toxicology and enzymology.

Elected 4 September 1992

Mr R.B. ALLANSON, B.Sc., 63 Station St, Tempe,NSW 2044. Roger is a Grain Quality Manager with interests in stored product entomology and integrated pest management.

Dr D.A. DUCKHOUSE, Ph.D., Zoology Department, University of Adelaide, North Terrace, Adelaide 5000. Derek, a Fellow of the Royal Entomological Society, is a Senior Lecturer with an interest in dipteran phylogeny and biogeography, especially the Psychodidae.

Ms J.A. ELEK, M.Sc., 20 Clint Place, Macquarie,ACT 2614. Jane is a Ph.D. student with interests in pests of stored products and the ecology of free-living nematodes.

Mrs B.M. JOHNS, B.Sc.(Hons), 18 Coveney St, Bexley North, NSW 2207. Bozena is an entomologist with the NSW Grain Corporation Ltd.

Mr A. LAWANPRASERT, Dept of Agricultural Science, University of Tasmania, GPO Box 252C, Hobart TAS 7001. Mr Lawanprasert is a Ph.D. student working with two spotted mites on hops.

Mr D.G. MADGE, B.Sc.Agr., PO Box 3101, Mildura, VIC 3502. David is involved in integrated pest management with the Victorian Dept of Food and Agriculture and has interests in biological pest control as well as in organic agriculture.

Mr A.J. McARTHUR, B.E., South Australian Museum, North Terrace, Adelaide, SA 5000. Archibald is retired and has an interest in the Formicidae.

Dr Y.K. PRASAD, Ph.D. Department of Crop Protection, Waite Campus, University of Adelaide, PO Glen Osmond, SA 5064. Yugal is involved in research and teaching in the Department.

Mr T.G. QUINLAN, B.Sc., 58 Kinninmont Ave, Nedlands, WA 6009. Timothy is a student in his Honours year. He has interests in predation and competition as well as the immunological analyses of animal diets.

Mr S. SUTRISNO, Dept of Ecosystem Management, University of New England, Armidale NSW 2351. Mr Sutrisno is a full-time postgraduate research student.

Mr M.A. TERRY, 2 Orange Grove, Smiths Lake, NSW 2428. Marcel is retired and has an interest in plant/insect interactions. He is also enrolled as an external student (B.Sc.) at Macquarie University.

Elected 2 October 1992

Mr P.S. GILLESPIE, B.Sc., Entomology Branch, BCRI, PMB 10, Rydalmere, NSW 2116. Peter, the Entomology Enquiry Officer at BCRI, has an interest in the Coleoptera, especially the Buprestidae.

Resignations from Membership

Miss G. CAON

Emeritus Professor H.E.H. PATERSON

Change of Address or Title

Mr T.G. AMOS, 8 Joan Court, Heathmont, VIC 3135

Dr P.C.E. BAILEY, Dept of Ecology and Evolutionary Biology, Monash University, Clayton Campus, Clayton VIC 3168

Miss T.B. CHURCHILL, Division of Environmental Science, Griffith University, Nathan QLD 4111

Dr M. CROSLAND, Dept of Biology, The Chinese University of Hong Kong, Shatin, N.T. Hong Kong.

Dr P.J. DE BARRO, C/- Dr S. Wratten, School of Biological Sciences, Biomedical Sciences

Building, Bassett Crescent East, Southampton ENGLAND SO9 3TU

Miss C. DITCHFIELD, Campbell Brothers, Byron St, Inverell, NSW 2360

Mr G.A. HERRON. Postcode should be 2125

Dr J.E. IRESON, returned to membership

Dr R.M. LARDNER, Dept of Biological Sciences, Simon Fraser University, British Columbia, Canada V5A 1S6

Dr R. LAVIGNE, returned to membership

Dr A.D. MARCHANT, Research School of Biological Sciences, Australian National University, PO Box 475, Canberra, ACT 2601

Dr D.J. MERRITT, returned to membership

Mr M.J. STEINBAUER, CRC for Temperate Hardwood Forestry, Locked Bag 2, PO Sandy Bay, TAS 7005

Dr C. STONE, Forestry Commission NSW, Research Division, PO Box 100, Beecroft, NSW 2119

Ms VORPAGEL, Incitec Ltd, has assumed the membership subscription of Mr C.P. Canty, resigned.

Miss R.L. WHYTE, 2/32 Hood St, Sherwood QLD 4075

Dr C.H. WILD, Lot 13, Repeater Station Rd, Springbrook, QLD 4213

The Society's database has been amended so that all members using the Waite Institute, Adelaide, as their address now have the address: c/- Dept of Crop Protection, Waite Campus, University of Adelaide, PO Glen Osmond, SA 5064

Queensland members who have used "Entomology Branch" as part of their address have had that name changed to "Division of Plant Protection".

From the Minutes.

The Executive welcomed the appointment of Dr G.M. Clarke as the Society's new Business Manager. Geoff is with the CSIRO Division of Entomology, Canberra.

A review has begun of the cost and format of the AES Journal.

Dr G. Hooper, President of the Society, wrote to the Hon. J. Dawkins, Federal Treasurer, pointing out the likely impact of proposed cuts in funds for rural research and development.

The Phil Carne Prize and the Insect Illustration Competition in 1993 will be funded as previously. However, the AES Research Grants will be limited to $1000, reflecting the need to consolidate the Society's funds and the current decrease in interest rates on investment.

Proposed amendments to update the AES Constitution will be presented to Members in this issue of the News Bulletin. Ian Naumann has agreed to be the Returning Officer.

The Executive has initiated discussions on the Society's role in the promotion of entomology and entomologists in Australia.

Andy Austin, Mike Keller and Dennis Hopkins are the core Organising Committee for the 1994 AGM and Scientific Conference in South Australia.

Paul MADGE
Secretary

CONSERVATION COMMITTEE REPORT

In September 1990 the Endangered Species Unit of the Australian National Parks and Wildlife Service (ANPWS) called for tenders for two overviews of the conservation status of "major taxa" and five action plans for "major taxa". Overviews are precursors to action plans in the Endangered Species Program. The overviews were for terrestrial nonvascular plants and nonmarine invertebrates. The action plans were for amphibians, reptiles, bats, rodents and birds. Subsequently an additional action plan tender was called to cover freshwater fish.

Alan Yen of the Invertebrate Survey Department of the Museum of Victoria successfully tendered for the invertebrate overview and employed Rhonda Butcher to assist. They submitted their draft overview to ANPWS and to two referees agreed upon by both parties in June 1992. ANPWS also agreed to receive comments from me on behalf of the Australian Entomological Society.

Nine reviewers agreed to provide comments to me. They were Eric Matthews, Alan Andersen, Robin Gunning, Robyn Coy, Peter Dostine, Peter McQuillan, Greg Blake, Alice Wells and Paul Horne. The draft overview was over 500 pages and our consolidated comments (22 pages) were required by mid August.

The draft overview ("An overview of the conservation status of non-marine invertebrates in Australia") included 12 sections or chapters and 7

appendices.
The section headings were:

1. Why conserve invertebrates?
2. Background information on Australian non-marine invertebrates.
3. Invertebrate conservation.
4. Species specific conservation: its role in non-marine invertebrate conservation.
5. Conservation of non-marine invertebrates at the community level.
6. The habitat approach to the conservation of non-marine invertebrates.
7. Landscape and regional conservation.
8. Conservation of sites of invertebrate significance.
9. Conservation of ecological processes.
10. Threatening processes.
11. Review of relevant legislation.
12. Conservation objectives and strategies.
13. Summary conclusions.

The appendices were:

1. Charter and statements on invertebrates.
2. Classification system for Australian non-marine invertebrates.
3. Description of biological and taxonomic knowledge of taxa.
4. Code for collecting.
5. IUCN resolutions.
6. List of non-marine invertebrate conservation projects in Australia.
7. Conservation legislation in Australia.

The overview addressed conservation of 46 classes of non-marine invertebrates with emphasis on arthropods, especially insects. It is difficult to summarise such a diverse document in a few sentences. It addresses central and peripheral issues. It is not merely a shopping list of taxa and locality based projects which mimic the heavily species orientated current project lists of conservation agencies. In general, the reviewers thought that the draft was probably so comprehensive and broad that staff of the Endangered Species Unit and their State colleagues may fail to gain essential information from it. We hope that chapter introductions and summaries which were not complete at the time of review will rectify this problem without the need to greatly condense the document. Happily ANPWS have extended the deadline.

The level of adoption of the report will depend not only on the Endangered Species Unit but also on its acceptance by ANZECC, the interstate and federal committee for conservation policy.

Lionel HILL
Convenor

PROPOSED CHANGES TO THE CONSTITUTION AND BY-LAWS OF THE SOCIETY.

The Constitution of our Society is a well-drafted and proven document. However, in recent years it has become clear that some sections are not entirely appropriate for present-day circumstances, practice or legislation.

Over the past nine months the Executive has drafted a number of changes which are now presented to the general membership for approval or rejection.

The Executive has also reviewed the Society's By-Laws. Proposed changes in these have been drafted and also accompany this issue of *Myrmecia*. As the Constitution requires, these require ratification by the Society's elected Council rather than by the general membership.

If you feel that any of the proposed changes to the By-Laws should be altered or rejected, please make your views known to a member of Council.

Ian NAUMANN
Public Officer

Proposed changes to the Constitution of the Australian Entomological Society

CLAUSE 11

Present title: Expulsion of Members
Proposed re-wording: Suspension and Expulsion of Members

Re-number present sub-clauses (a) and (b) as 11(a)(i) and 11(a)(ii) respectively and add the following sub-clause:

11(b) Any member whose debts to the Society (other than subscription arrears) are more than 12 months in arrears shall, unless the Executive otherwise determines, be suspended from the Society until the full amount of the arrears is tendered.

Reason for change: The clause provides the Society with a sanction which can be applied to members who fail to respond to requests for payment of conference fees, purchase of Society publications, etc. Non-payment of subscription fees is at present covered by Clause 21(b) which states that 'No member ..... shall be entitled to privileges of membership if the subscription is more than twelve months in arrears'.

CLAUSE 13(a). Honorary Membership

Present wording: Any person who has rendered or is rendering distinguished service to the Society or to the cause of entomological science may be appointed an Honorary Member of the Society by the Council on the written nomination of a member of the Council or of not fewer than six financial members submitted to the Executive. A vote on such nomination may be taken by postal ballot.

Proposed addition: The word 'ballot' to be followed by 'of the Council'.

Reason for change: The second sentence is slightly ambiguous as it presently stands. However, a reading of the first sentence makes it clear that a postal ballot of the Council (and not of the Executive or full membership) is required.

CLAUSE 23. Titles of the Officers

Present wording: The Officers of the Society shall be the President, Vice-President, Secretary, Treasurer, Chief Editor, Business Manager, and Public Officer .....

Proposed addition: After 'Business Manager' insert 'News Bulletin Editor'.

Reason for change: The change brings the News Bulletin Editor from the Council into the Executive which is responsible for the day-to-day running of the Society. As a member of the Executive the News Bulletin Editor will be made aware automatically of issues, decisions and critical dates which should be relayed to the general membership via the News Bulletin. In practice the News Bulletin Editor rarely will be able to attend Executive Meetings since usually the core Executive and the News Bulletin Editor reside in different states. However the News Bulletin Editor will be in telephone contact and will receive the monthly Executive Meeting Minutes. At present the Constitution requires the Executive to provide a quarterly report for inclusion in the News Bulletin. The proposed inclusion of the News Bulletin Editor in the Executive is intended to improve communication with the general membership.

CLAUSE 27. Composition of the Council

Delete: 'the News Bulletin Editor,'

Reason for change: If the change to Clause 23 is approved, the News Bulletin Editor becomes an Officer of the Society and is automatically a member of Council.

CLAUSE 28. Technical Editors and News Bulletin Editor

Present wording: Three Technical Editors (two General Editors and one Taxonomic Editor) and one News Bulletin Editor shall be chosen from the general body of members .....

Proposed change: At least three Journal Technical Editors and one News Bulletin Editor shall be chosen from the general body of members....

Reason for change: The change gives the Society the option of electing or appointing an additional Technical Editor to ease the work-load on the Technical Editors and hasten the processing of manuscripts. Reference to areas of expertise of the Technical Editors is deleted: at present the expertise of some of the editors spans several disciplines; in the future Technical Editors may be required for disciplines not envisioned at the time of drafting of the Constitution.

CLAUSE 39(a). Promulgation of By-Laws

Replace: Associations Incorporation Ordinance 1953 (as amended)

With: Associations Incorporation Act 1991.

Reason for change: The Australian Entomological Society is incorporated in the A.C.T. Recently A.C.T. legislation has been brought up to date with developments in company law and associations law in other jurisdictions. In 1991 The Associations Incorporation Act 1953 was replaced with a new Act.

CLAUSE 43(a).

Replace: 'Associations Incorporation Ordinance 1953 (as amended)' and 'Ordinance'

With: 'Associations Incorporation Act 1991' and 'Act'

Reason for change: As for Clause 39(a). See above.

CLAUSE 47. Frequency of Annual General Meeting

Present wording: Annual General Meetings shall be held at not more than twenty-four (24) monthly intervals and where practicable and convenient in association with successive meetings of ANZAAS

Proposed change: Delete all reference to ANZAAS.

Reason for change: Meetings are no longer synchronised with ANZAAS.

CLAUSE 48(b). Composition of Annual General Meeting

Present wording: [An Annual General Meeting shall consist of two parts:]

(a) a business meeting .....

(b) a scientific meeting, organised by a committee appointed by the Executive from among the members resident in the centre of population where the meeting is held, and, when the meeting is to be in association with a meeting of ANZAAS, working in consultation with the appropriate Local Committee of ANZAAS.

Proposed change: Delete all reference to ANZAAS.

Reason for change: As for Clause 47.

CLAUSE 54. Dissolution

Replace: Section 19 of the Associations Incorporation Ordinance 1953 (as amended)

With: the Associations Incorporation Act 1991.

Reason for change: As for Clause 39(a). See above.

Add: New clause 54(c). Upon winding up of the Society members shall not be liable to contribute towards payment of outstanding debts or liabilities of the Society or costs, charges and expenses of winding up.

Reason: This addition is required by the new Associations Incorporation Act 1991.

CLAUSES 8-46

Reason for following changes: To render the Society's Constitution gender-neutral.

CLAUSE 8(b)

(i) Replace: he; with: that person
(ii) Delete: his (x 4)
(iii) Replace: he; with: that person
Replace: his; with: the
(v) Replace: his nomination; with: the nomination
Replace: he; with: the person
Replace: his first; with: the first

CLAUSE 10(c)

(i) Replace: he; with: the member

CLAUSE 11(b)

Replace: him; with: the member
Replace: his; with: the

CLAUSE 12

Replace: his; with: from

CLAUSE 21

21(c) Replace: his further; with: a

CLAUSE 26

26(a) Replace: his position if he; with: that position if the Officer
(i) Replace: his; with: the Officer's
(ii) Replace: his; with: the Officer's (x3)
(iii) Replace: his duties; with: the Officer's duties
(vi) Replace: his; with: the
26(b) Replace: his; with: that
Replace: him; with: the Officer
Replace: his; with: the

CLAUSE 43

43(a) Replace: inform himself; with: become familiar with
43(b) (iii) Delete: his
(v) Replace: his office; with: the office
Replace: under his hand; with: under the person's hand

CLAUSE 46

Replace: his; with: the Councillor's

Proposed changes to the By-Laws of the Australian Entomological Society

BY-LAW 7 (Executive appointments)

Add: All Executive appointees shall hold office for up to two years and shall be eligible for reappointment.

Reason for addition: Recommended unanimously by 37th Council Meeting (Macquarie University, May 1989).

BY-LAW 9 (Duties of) The Secretary

Add: (k) make available for inspection by members any books or documents of the Society.
Reason for addition: Required by new (1991) A.C.T. legislation. The Society is incorporated in the A.C.T. and is bound by its legislation.

BY-LAW 11. The Public Officer

11(a) Replace: Commissioner of the A.C.T. Corporate Affairs Commission
With: Registrar's Office, A.C.T.
11(b-d) Replace: Commissioner
With: Registrar's Office
Reason for changes: Required by new (1991) A.C.T. legislation.

BY-LAW 12

12(a) Add (after News Bulletin): (known as *'Myrmecia'*)
Reason for addition: 'Myrmecia' is the current title of the Society's News Bulletin.

BY-LAW 13

13(c) Delete: [A regional councillor shall] provide liaison with the local committee of ANZAAS.
13(d) Re-number to (c)
Reason for deletion: This is anachronistic. AGM's of the Society are no longer linked to ANZAAS meetings.

BY-LAW 19 (Duties of) The Editors

19(a)(v) Present wording: [The Chief Editor shall] prepare and submit a Chief Editor's Report to each alternate meeting of the Executive; and
Proposed change: [The Chief Editor shall] prepare and submit a Chief Editor's Report to the Executive within one month of the publication of each part of the Journal; and
Reason for change: To link Report to each issue of a part of the Journal rather than to the schedule of Executive Meetings.

19(b)(i) Delete: One general editor shall be responsible for manuscripts with a physical, chemical or genetic emphasis, and the second General Editor for those having biological or ecological emphasis; the Taxonomic Editor shall be responsible for manuscripts dealing with taxonomic and morphological subjects;
Reason for deletion: To be consistent with changes in Clause 28 of the Constitution.

BY-LAW 21 (Duties of) Assistants to Executive Officers

Present wording: The Assistant Secretary, Assistant Treasurer, Assistant Editor and Assistant Business Manager shall .....
Add (after Assistant Editor):, Assistant News Editor
Reason for addition: Changes to Clauses 23 and 27 of the Constitution have made the News Bulletin Editor an Executive Officer.

BY-LAW 25

AWARDS

25(a) The Society's award for excellence in

entomology shall be the Ian Mackerras Medal. The following rules shall apply to this Award.

(i) The award shall be made not more frequently than at alternate Annual General Meetings.

(ii) The Executive shall invite nominations for the award from members of the Society six (6) months prior to the Annual General Meeting at which the award may next be made.

(iii) Only financial members of the Society who will be under the age of fifty (50) years at the date of award shall be eligible for nomination.

(iv) A candidate must be nominated by not fewer than two (2) financial members of the Society.

(v) Proposers of the candidate shall, not less than three (3) months prior to the Annual General Meeting, provide the Secretary with the candidate's name, date of birth, academic distinctions, relevant appointments and membership of societies, a list of the candidate's more important publications, and a statement of not more than 500 words explaining why the candidate merits the award.

(vi) A Selection Committee for award of the Medal will be appointed and convened by the President, and members of that Committee shall themselves not be eligible for nomination, nor may they be signatories to a nomination.

(vii) Should the Committee recommend to the Executive that an award be made the name of the recipient will be announced and the Medal presented during the week of the following Annual General Meeting. 15(b)

(b) The Executive may make an award, Australian Entomological Society Service Award, to any member or former member of the Society in recognition of outstanding service to the Society.

Reason for addition: The Mackerras Medal is not at present mentioned in the Constitution or By-Laws. The above procedures (25(a)(i-vii) reflect current practice for the selection of medallists. The Service Award gives the Society an additional option where a Mackerras Medal Award or Honorary Membership might not be appropriate.

NOMINATION OF OFFICERS AND COUNCILLORS FORM

Re-number as By-Law 26.

APPOINTMENT OF PROXIES

Re-number as By-Law 27.

BY-LAWS 2-21 and NOMINATION FORM

Reason for following changes: To render the Society's By-Laws and nomination forms gender-neutral.

BY-LAW 2

Delete: his

BY-LAW 9

9(e) Replace: he; with: the News Bulletin Editor

BY-LAW 10

10(f) Replace: he; with: the Treasurer

BY-LAW 11

11(a) Delete: his (x3)

11(b) Replace: if he changes his address
With: having changed address
Replace: his; with: the

BY-LAW 12

12(d) Replace: he; with: News Bulletin Editor

BY-LAW 15

15(a) Replace: he represents; With: represented by that Councillor

Replace: with the approval of the society he represents collaborate with the Regional Councillor in organising General Meetings and other activities of the Society in his region.

With: with the approval of the society represented by that Councillor collaborate with Regional Councillors in organising General Meetings

and other activities of the Society.

BY-LAW 19

19(a)(iii) Replace: he; with: the Chief Editor (x2)
19(a)(vi) Replace: he; with: the Chief Editor
19(b)(ii) Replace: him; with: the Chief Editor
19(d) Replace: his absence his; with: the Chief Editor's absence, the Chief Editor's

BY-LAW 21

21(b) Replace: him; with: that Officer
Replace: his; with: the Officer's

NOMINATION OF OFFICERS AND COUNCILLORS FORM

From the footnote delete: his/her

Ian NAUMANN
Public Officer

Leonard Edgar Couchman
14 June 1901 - 17 June 1992

Len Couchman was born at Whetstone, Middlesex, UK and under the influence of Mr W. H. Wickham, a schoolteacher, he first became interested in insects in Epping Forest which surrounded his boyhood home. In 1921 he started collecting butterflies and made contact with the entomological societies in London and with staff of the Natural History Museum. He trained as an electrical engineer and came to Australia in 1925 where he joined the NSW Electricity Board in Newcastle and in 1926 spent a year in Cairns setting up a modern printing press before returning to Newcastle. For the next 15 years he collected butterflies when the opportunity arose and became a friend of Dr G. A. Waterhouse in Sydney. During this period he became more and more interested in the literature of butterflies and befriended Mr W.A. Rainbow (librarian at the Australian Museum) and Mr A. Musgrave. He was also very involved in the Workers Educational Association (WEA).

In 1942 he married Ruth and was sent to Hobart under the wartime manpower act to become a full-time tutor-organiser for the WEA. Here he contacted Dr J.W. Evans and by 1945 was working closely with two butterfly enthusiasts in Hobart, Mr Sid Angel and Mr J.R. (Peter) Cunningham. The butterflies of Tasmania were then poorly known and Len and Ruth derived immense pleasure from camping trips by bus, train or on foot to the inaccessible mountain regions of the state. By this time Dr G.A. Waterhouse was ill and Len decided to publish his own findings and so began an impressive series of papers on the butterflies of Tasmania, their biology and geographic variation.

Len's chief enthusiasm was for the three endemic Tasmanian butterflies, all Satyrinae, and all with fascinating problems of geographic variation. The high point was when Sid Angel first discovered *Oreixenica ptunarra* at Lake Leake in March 1947. At first Len believed they had discovered the long lost *O. paludosa* of T.P. Lucas (the female) as well as a new species (the male) but he soon recognised them as the sexes of a new species which he described in 1953. This remains Len's proudest memorial. *O. ptunarra* is the only new species of butterfly described from Tasmania this century. His scholarship gave direction and enthusiasm to the group of collectors he gathered around him and knowledge of the fauna improved rapidly. A major milestone was the publication in 1956 of his catalogue of Tasmanian butterflies, a thorough and invaluable work which established Len's mastery of the complex literature of the butterflies. A testimony to Len's expertise with the literature came from C. F. Cowan in his preface to *Annotationes Rhopalocerologicae* 1970, a detailed addendum to Hemming's "Generic Names of Butterflies" where he acknowledges the "valuable comprehensive and accurate notes" sent.

The search for *O. paludosa*, the full story of which was never published, and the classic study of geographic variation in *Pseudalmenus chlorinda* were projects which suited Len's talents perfectly. His patient research of historical information on the voyage of the Astrolabe showed that the insect collector on the voyage, J.B. Hombron remained behind tending sailors with scurvy who were quarantined at Richmond, while the ship went to antarctic waters. This confirmed the entomological evidence that specimens illustrated by Blanchard from the voyage matched those found today at Richmond but not those from the western shore of the Derwent.

When the WEA scheme closed he became a biology and maths teacher first at Albeura Street

Secondary School and later at Claremont High School. He retired in 1962. In 1963, with Ruth, he made his long planned collecting trip to northern Queensland and his misfortune in visiting Iron Range during the army's preparations for a simulated atomic explosion is well known. However he and Ruth had a very successful trip to Western Australia in 1966. With these exceptions he confined his collecting in later years to Tasmania. When Ruth died in 1987 he gave up active work on butterflies.

In the period following the death of G.A. Waterhouse in 1951 until the emergence of a younger generation of butterfly students in the 1970's, Len was regarded as the most experienced and best informed butterfly expert in Australia.

Len was a foundation member of the Australian Entomological Society but resigned from the society in 1971 following a disagreement with the then editor about a note he submitted for publication commenting on a book review which appeared in the "News Bulletin". He was an honorary life member of the British Entomological and Natural History Society, a fellow of the Royal Entomological Society and a member of the Lepidopterists Society.

Altogether he described 2 new species, one of which is currently regarded as a subspecies, 21 new subspecies and 3 infrasubspecific taxa. His collection of about 13,000 specimens in four beautiful home-made cabinets with glass-bottomed drawers has been donated to the ANIC. In 1992, shortly before his death, he was awarded the AM in the Order of Australia honours list in recognition of his contribution to entomology.

In his later years he became greatly concerned at the accelerated destruction of habitats and did much to engender an interest in the conservation of Tasmanian butterflies. His collection will remain a most important resource in the documentation of changes in the distribution of Tasmanian butterflies in recent times. The Tasmanian National Parks and Wildlife Service have taken an active interest in butterflies and several detailed reports have been prepared which owe much to Len's pioneering work. Len, however, would be the first to suggest that much useful work still needs to be done in

Len Couchman in his garden in November 1990

Tasmania.

Current location of holotypes of species and subspecies described by L.E. Couchman:

Antipodia chaostola leucophaea (Couchman, 1946) Tasmanian Museum
Hesperilla chrysotricha lunawanna Couchman, 1949 Tasmanian Museum
Hesperilla chrysotricha naua Couchman, 1949 SAM
Suniana lascivia larrakia Couchman, 1951 SAM
Oreixenica latialis nama Couchman, 1953 NMV
Oreixenica latialis theddora Couchman, 1953 NMV
Oreixenica ptunarra ptunarra Couchman, 1953 ANIC
Oreixenica ptunarra roonina Couchman, 1953 ANIC
Oreixenica ptunarra angeli Couchman, 1953 ANIC
Heteronympha cordace comptena Couchman, 1954 ANIC
Heteronympha cordace kurena Couchman, 1954 ANIC
Heteronympha cordace legana Couchman, 1954 ANIC
Theclinesthes serpentata lavara (Couchman, 1954) ANIC
Anisynta albovenata weemala Couchman, 1954 ANIC
Anisynta cynone gunneda Couchman, 1954 ANIC
Oreisplanus munionga larana Couchman, 1962 ANIC
Everes lacturnus australis Couchman, 1962 ANIC
Hesperilla mastersi marakupa Couchman, 1965 ANIC
Bindahara phocides yurgama Couchman, 1965 AM
Pseudalmenus chlorinda conara Couchman, 1965 ANIC
Graphium macleayanus wilsoni Couchman, 1965 ANIC
Graphium macleayanus moggana Couchman, 1965 ANIC
Argynnina hobartia montana L.E. & R. Couchman, 1977 ANIC

Also the neotype of *Pseudalmenus chlorinda chlorinda* (Blanchard) designated by Couchman, 1962, is in the ANIC.

In 1962 he used the combination *Candalides simplexa cassythae* which made the species group name *cassythae* Couchman, 1962 available. It was formerly a name first introduced in synonymy by A.W. Scott, 1890, and Len was unfortunate enough to use the name in the short period that the International Rules of Zoological Nomenclature were not finalised on how names first introduced in synonymy should be treated.

Publications by L.E. Couchman:

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Couchman, L.E. 1947b. Notes on *Hesperilla chrysotricha plebeia* Waterhouse (Lepidoptera - Hesperiidae). *Pap. Proc. R. Soc. Tasm.* 1946: 29-30, 1 pl.

Couchman, L.E., 1948. Notes on the Lepidoptera - Rhopalocera of Tasmania. *Rec. Queen Vict. Mus.* 2: 93-96.

Couchman, L.E. 1949. Notes on the geographical races of *Hesperilla chrysotricha* Meyrick and Lower (Lepidoptera - Hesperiidae). *Pap. Proc. R. Soc. Tasm.* 1948: 65-73, 1 map, 1 pl.

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Couchman, L.E. 1953. Notes on some species of *Oreixenica* Waterhouse and Lyell (Lepidoptera, Satyridae), with descriptions of new forms. *Proc. R. ent. Soc. London* (B) 22: 73-84.

Couchman, L.E. 1954. Notes on some Tasmanian and Australian Lepidoptera - Rhopalocera with descriptions of new forms and subspecies. *Pap. Proc. R. Soc. Tasm.* 88: 67-79, 2 maps, 1 pl.

Couchman, L.E. 1956. A catalogue of the Tasmanian Lepidoptera - Rhopalocera. *Pap. Proc. R. Soc. Tasm.* 90: 1-33.

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81-85.
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Couchman, L.E. 1969. Correction to the article "A collecting trip to northern Queensland, Australia" by Douglas Marsden (*J. Lepid. Soc.* 22: 121-2, 1968). *J. Lep. Soc.* 23: 280.
Couchman, L.E. and Couchman, R. 1977. The butterflies of Tasmania. *Tasmanian Year Book* 11: 66-96.

Ted EDWARDS
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ICSU STATEMENT ON GENE PATENTING

The International Council of Scientific Unions is an international non-government organisation with many disciplinary Unions and other Committees denoted to particular programs, including COGENE, the committee on Genetic Engineering. The Australian Academy of Science is Australia's adhering organisation for ICSU and have asked that the following statement on gene patenting, approved by ICSU, be promoted.

The International Council of Scientific Unions (ICSU) is an international non-governmental organisation whose mandate includes the promotion of cooperation in the basic sciences, and the safeguarding of the principle of the universality of science and of the free flow of scientific knowledge.

The Council is aware of the tremendous potential benefit of genetic research for humanity and realises that new ethical and social dimensions arise from this. Accordingly, ICSU strongly believes that efforts to patent genetic information should not jeopardise either progress in the basic sciences or access to the information which is necessary for such progress to continue.

ICSU asserts its view that information about nucleic acid sequences cannot be patented *per se*. Such sequences should be patentable solely within the context of their demonstrated significance and/or application (e.g. regulatory signals, antisense RNAs, probes, etc...) -- and not of their **potential** products (e.g. proteins) -- and provided that this can be shown to be "novel", "non-obvious" and "useful".

Under such circumstances, patenting of complementary DNA sequences (cDNAs) would distort the patent process, which is designed to protect applications, methods and products, on the basis of proven facts and not mere expectations, and normally serves society by stimulating the investments and developments necessary to provide useful products and services.

Any deviation from such patenting principles would run counter to the best interests of science and hinder international collaboration in such endeavours. ICSU therefore cautions against decisions which may be irreversible, such as those possibly emerging as a result of the recent patent requests concerning complementary DNA (cDNA) sequences corresponding to portions of unknown messenger RNAs (mRNA).

ICSU urges the relevant authorities, particularly in countries where patent applications in this field have been or are soon to be filed, to consider such applications taking due account of the possible implications and to ensure a strict application of established patenting principles, thereby setting an example for other countries in which similar cases may arise in the future.

ICSU would welcome a formal international agreement on this subject.

[I always thought DNA stood for "National Dyslexia Association"! - Ed.]

RESEARCH GRANT REPORT

Report to the Executive of the Australian Entomological Society on the life history studies and species determination of the Ogyris idmo *Hewitson (Lepidoptera: Lycaenidae) complex in Western Australia, funded by an A.E.S. Research Grant.*

The genus *Ogyris* contains some of the largest and most brilliantly coloured butterflies of the family Lycaenidae and yet their elusive nature has meant that they are seldom seen by the general public, although some species are not uncommon close to the mainland capital cities. There are 15 species in the genus, 12 occurring in Australia and 3 in New Guinea. Of the Australian species, the larvae of 10 are

known to feed on mistletoes, and one feeds on the root parasitic plants *Choretrum* and *Leptomeria*. The remaining species is *Ogyris idmo*, the largest and rarest species in the genus and the second largest lycaenid in Australia. The life history of this species is unknown, yet it is believed not to feed on parasitic plants and is possibly predatory on ants.

As with most species of Lycaenidae, all the *Ogyris* have a strong association with ants. Of the 11 Australian species where the life history is known, this association is presumed to be symbiotic with, in many cases, the larvae living in the ants' nest, often at the base of the tree, and emerging at night, with ants in attendance, to search for mistletoe on the tree. The larvae will also often pupate in the ants' nest, usually close to the entrance where escape by the emerging butterfly is less hazardous.

For *O. idmo* the life history is largely unknown. The species has been collected from western Victoria, southern South Australia, including Kangaroo Island, and south-western Western Australia, from Kalgoorlie, Cape Arid National Park (east of Esperance), the Stirling Ranges, Windy Harbour and near Perth. Nowhere is the species abundant with probably fewer than 30 specimens being seen outside Western Australia since 1950. However, at times in recent years, the species has been locally common near Perth, Kalgoorlie and at Cape Arid National Park.

Ross Field, the author of this report, collecting butterflies in Cape Arid National Park, Western Australia.

All three of these populations are morphologically distinct and behavioural differences of the adults suggests that there may be at least two species involved. At all locations mistletoes are absent.

The evidence suggests that the butterflies lay eggs into ant nests and the larvae complete their

growth within the nest, eventually pupating near the entrance of the nest. No larvae have ever been found in the field and the only known pupa was recovered from within a sugar ants' nest in the Victorian Little Desert in 1945.

The principal aims of the project were:

1. To determine the life history of the *Ogyris idmo* complex at Perth, Kalgoorlie and Cape Arid National Park.
2. To determine the taxonomic status of these

Ogyris idmo Hewitson, the subject of Ross Field's project.

populations by a comparison of adult and immature morphologies, behaviour and life histories.

3. To recommend to State Government authorities on measures necessary to protect this/these unique species.

The sparse vegetation at Kalgoorlie, and to a lesser extent at Cape Arid National Park, make observations on the behaviour of the butterflies and the location of sugar ant nests relatively simple.

The timing of visits to each site was thought to coincide with the presence of mature larvae and/or pupae within ants' nests and the early flight period for the adults. However, butterflies collected from Kalgoorlie had been recorded throughout the Spring and Summer months, suggesting perhaps two generations per year, unlike specimens collected elsewhere in Australia which typically fly only from late October to December. Observations were made at Perth (Pauls Valley, near Mundaring Weir, 28-29 Sept., 19, 21 Oct. 1991), Kalgoorlie (4-9 Oct., 16-17 Oct.) and Mt Ragged (11-14 Oct.).

At two sites (Kalgoorlie and Mt Ragged) observations were made on flight behaviour of the adults from early morning to late afternoon. Females at these two sites were also caged over

ant nests and oviposition behaviour observed. Careful excavation of ant nests was undertaken at all sites in an attempt to locate larvae and pupae. Eggs located were returned to the laboratory with ant brood to determine whether or not the butterfly larvae were predatory. Night observations were undertaken to determine if the butterfly larvae forage outside the ant nests.

Ant associations. Despite numerous *Camponotus* ant nests being excavated at all three study sites, no butterfly larvae were located. Each site had a different, but closely related *Camponotus* species that predominated. At Pauls Valley, all stages of the ant were present with the brood (ant larvae and pupae) often in or under partially buried logs or tree stumps. At Lake Douglas, near Kalgoorlie, the ant nests were abundant around living *Eucalyptus concinna* Maiden & Blakely, but the ant brood was difficult to find and always at least 0.5m underground and protected by the root system of the tree. At Mt Ragged, fire had destroyed all vegetation during February 1991 and at the time of visit regrowth was 30cm high (See photo, this page). *Camponotus* ant nests were common around the bases of sprouting mallee eucalypts and some ant brood was located in hollow, dead branches above ground. Observations at night showed that the ants were nocturnal, foraging up the trees

accompanying eurymelid bugs which live in the ant nests during the day. No *Ogyris* larvae were found foraging with the ants. In one ant nest, at the base of a eucalypt (mallee) near Mt Ragged, was located a colony of nymphs of a native aphid, *Anomalaphis* sp. Although about 5cm underground and clustered on the bole of the

Campsite at Mt Ragged, Cape Arid National Park., W.A.

tree, there was no evidence that the eucalypt was the host plant of the aphid.

Butterfly populations. The Mt Ragged population of this species is much brighter than the typical population near Perth and was very abundant in some areas near Mt Ragged. The larvae of this population must live and complete their development underground, presumably in the sugar ant nests around the base of mallee eucalypts, as between February and September 1991 there was no above-ground vegetation at Mt Ragged. The flight season of the butterfly near Perth is November to early December, but at Mt Ragged the butterfly was abundant in early October 1991 and in 1989 I recorded it there after mid-December. The butterflies tend to fly only from about 0830 until 1300hr, particularly in hot weather, usually close to the ground, females settling on the ground and males often landing on low dead twigs. To see the butterflies, it is generally necessary to walk in amongst the mallee and "flush" them up. The population of butterflies at Mt Ragged is extensive. All mallee areas to the west of Mt Ragged to at least the Balladonia Road and south along the road to Wylie Scarp for at least 12km probably support populations of the butterfly.

At Kalgoorlie, the butterflies were sparse but had definite flight paths and often exhibited hilltopping, where individuals, particularly males, fly to the tops of small rises and settle on the ground. Females were also often found on these rises. The butterfly was only found over a few square kilometres to the north-west of Lake Douglas. Several females were caught and caged over ant nests at the base of *E. concinna* trees. The caged butterflies were often observed to carefully approach the entrance to the ant nest, (which was usually an opening or series of openings up to 1cm wide at the soil line against the base of the tree), and back into the hole and oviposit about 1cm below ground, always on the bark of the tree. With this knowledge of the oviposition site for this species, a survey of ant nests at the base of 50 trees in a 0.4ha patch of mallee was undertaken. Over a third of the trees had eggs, most laid in previous seasons, but 8% of the trees had been used as oviposition sites during the previous week. Nearly 90% of all eggs were found on the north to west quarter of the tree. Extensive information was obtained on the oviposition behaviour of the butterfly and the degree of parasitism by an *Ooencyrtus* sp. (Hymenoptera: Encyrtidae).

Hatching of eggs from Lake Douglas took 15 days (eggs had been held in containers under fluctuating temperatures approximating those found under field conditions). Ant brood from Lake Douglas was unavailable when the eggs were hatching so brood from the Pauls Valley *Camponotus* was collected, with attendant ants, and placed in containers. After 14 days only one matured to a 2nd instar but there was no evidence to suggest how the larva had grown.

Taxonomy of the *O. idmo* complex. A comparison of the morphology of the Lake Douglas 1st instar larva and a 1st instar larva of *Ogyris idmo idmo* from near Perth (in ANIC) indicated that the Lake Douglas specimens are clearly not *O. idmo* but an undescribed species. A description of the new species is being prepared for publication.

There are two species in the *O. idmo* complex in south-western Western Australia. An undescribed species exists at Lake Douglas near Kalgoorlie and is only known from a few square kilometres surrounding this area. The other species is more widely spread but a distinct bright blue (in the female only) population exists at Mt Ragged and the surrounding mallee scrub land in the Cape Arid National Park. It is likely that both species have similar life histories, being totally dependent on *Camponotus* ants for their food. It is unlikely that either species of butterfly leaves the ant nest to forage on vegetation above ground. Evidence for this was most prevalent at Mt Ragged where bushfires had removed all vegetation for six months during which period larvae growth would have been occurring.

The conservation status of this butterfly complex needs to be examined. Although rare, the typical *O. idmo idmo* is widespread in south-western Western Australia and occurs in a variety of habitats, presumably only in association with a small number of closely related *Camponotus* spp. The unique and spectacular population at Mt Ragged is large and protected within the Cape Arid National Park and appears to be very tolerant of bushfires. The undescribed species at Lake Douglas would have to be considered much more vulnerable. The colony occurs within a public recreation area that can be subjected to

significant human interference. Some consideration by the Department of Conservation and Land Management (CALM) should be given to determining the range of this species and protecting the main breeding sites. A preliminary report on this project has been sent to CALM with details of the biology and taxonomy of the complex and comments on the need for conservation considerations.

I am grateful to AES for the research grant and Bob Hay, Hugh Bollam and Matt Williams for field assistance and Dr Greg Keightey of CALM for plant identifications. A follow-up trip is planned to help complete the biology studies on the complex.

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REPORT ON ANIC TECHNICAL TRAINING COURSE

During September (14-18), the Australian National Insect Collection ran a Technical Training Course covering a wide number of topics. The 15 participants came from far and wide and represented a broad range of interests and requirements - some were "amateurs" and others worked either part time or full time on insects. Congratulations to the Institutes who had the foresight to send those that work for them to do the course!! The benefits are sure to flow back to you.

The ANIC laid on a feast of collection, preparation and curation techniques. Luckily for us, Day 1 (collection techniques) was bright and sunny (almost warm!), although a few of the Northerners muttered about the freezing conditions. On the hill behind CSIRO, we soon learnt that almost all the handy little gadgets we were by then dying to get our hands on were "whipped up in our (ANIC's) workshops". Various light, intercept, pitfall, malaise trapping and extraction techniques were demonstrated by Ebbe Nielsen, Ted Edwards, Tom Weir, Ian Naumann, Jo Cardale, Walter Dressler and Murray Upton. The need to keep insects out of one's ears was made clear by those who had previously suffered in this way! It was a point many of us had not considered.

Day 2 saw Ted Edwards and Vanna Rangsi impressing us all with flicks of the wrist and blowing gently onto lepidopteran wings - producing beautifully pinned specimens. Is that all there is to it? Funny, most of us seemed to remember ending up covered in scales when we'd tried this group in the past. Nothing like years of practise to make it look easy, I suppose.

After lunch, it was the turn of the coleopterists - Tom, Walter and Andrew Calder. Again, preparing terrific specimens was made to look *sooo* easy! Tom also dealt with the treatment of Heteroptera.

Ian Naumann and Jo Cardale stunned us on Wednesday morning with myriad things that can be done with incredibly tiny wasps (including gold-plating and mounting of various bits on slides). Critical point drying was ably demonstrated by Jo, which resulted in everyone desperately trying not to sneeze/cough/laugh etc, in case we blew the specimens away. We were pleased to see that the Hymenoptera also come in larger sizes!

Murray then filled us in on the treatment of non-heteropteran Hemiptera, and gave a very enlightening demonstration of how not to prepare or pack specimens.

Tony Watson filled the rest of the afternoon with spectacular dragonflies, and not-so-spectacular, but still interesting, termites. Termites - at last a group that you can just throw into alcohol! Their only drawback seems to be that collecting techniques involve shovels, chainsaws and crowbars. Definitely a group to collect close to support vehicles.

Thursday morning was launched by Don Colless, on how not to break the bristles off flies' legs and other "bits". Some comments were made about "Leps ruining a good light trap sample". Don also gave very useful tips regarding the rearing of Diptera of all forms.

Dave Rentz and Alison Roach took over in the afternoon. We were all very impressed with the "Mini Bat Detector", which allowed us to hear the ultrasonic abuse being hurled at Dave by a very disgruntled katydid that he was waving about. Luckily, the detector was turned off before it went into the killing jar! Alison Roach skilfully pinned some grasshoppers for us and after she'd finished, several people were left wondering if their establishment owned enough pins to process more than 3 orthopteroids per month. Dave then

Participants in the first Technical Training Course on the steps of the ANIC in Canberra.

ran through de-gutting (just after lunch, too!) and detailed rearing techniques. We were then introduced to baby orthopteroids.

Our last day began with Steve Shattuck running through the collection and preservation of ants. Steve couldn't guarantee the safety of ant collectors, but did suggest tying off one's trouser legs before digging out a nest. Steve also detailed his methods of field note keeping.

Following morning tea, Bruce Halliday championed the cause of things with more than 6 legs. For some reason, Bruce had been out vacuuming the front lawn of the CSIRO. Some people are so careful about cleanliness! His little vacuum had, however, produced a good haul of red-legged earth mites, Collembola and other tiny, fast moving invertebrates for us to look at. Bruce also carefully detailed slide making, a facet several people seemed to agree had been lacking from their previous Uni (or other) training.

Finally, rearing of mites was demonstrated - you must get more mite-rearing per square centimetre than any other group!

Penny Greenslade then showed us more tiny things - Collembola. Vacuuming again featured - much more fun than doing the living room - as Penny showed with slides of collecting Collembola in such exotic places as Tasmania. Penny also recommended fogging for this group, and beach collecting. Collembola sounded better all the time!

Following lunch, Ebbe gave a general talk on the ANIC, the importance of well prepared and labelled specimens, and even how to reduce your tax bill by donating insect collections to the ANIC! Geoff Clarke then took us on a sprint (literally!) through the collection halls, gesticulating first at this wonder, and then that! Shades of a Gold Coast tour bus! We were shown the computerised database, and had the importance of good locality/habitat data, etc, further impressed upon us. Geoff also demonstrated the vagaries of hand-held GPS systems, but finally, triumphantly came in to announce that we really were in Canberra! Unfortunately, this device was thought to be beyond the resources of many course participants.

Finally, we came to the general discussion. All participants were asked to complete a questionnaire on the course and to give comments and suggestions (always a brave move on behalf of the organiser). All participants

Murray Upton (far left) and Tony Watson (3rd from left) doing the termites at the ANIC Course. Genevieve Carruthers, author of this report, is at centre holding the book.

greatly enjoyed the course, and everyone I spoke to said much the same thing - i.e. how helpful, friendly and open people had been, offering not just standard "text book" advice, but personalised useful hints and tips gleaned from their own years of experience. Some participants would have liked to have seen some features added (eg more taxonomy, electron microscopy demonstration, more hands-on collecting, etc) but I think these things reflected the individual's own experience and interests. Generally the course achieved exactly what it seemed to intend - to be a general introduction to a huge range of insect groups, whilst instilling the importance of well collected, well prepared and well documented specimens. Most participants agreed that the week was worth far more than $170 for 5 days of expert tuition.

At the end of the course, I think many of us were feeling much more confident in dealing with entomological preparation. thoroughly impressed and, perhaps, even information overloaded. However we were left wondering about three things -

1. What happened to all the chocky biscuits at afternoon tea time?
2. Does prolonged use of cyanide and tetrachloroethane lead to hair loss? and
3. How well guarded are the ANIC workshops and the workers therein, and could they be easily whisked away?

Seriously, though, it was a great course, well run, very informative and relevant and, on behalf of all the participants, I would like to thank all those involved in setting up and running it. We all learnt a great deal, and many people were at last able to put faces to either names or voices on telephones. We would recommend the course either to the beginner, students or to people who have been working with insects for some time, but need more detailed information than can be obtained from books.

Thanks ANIC (and apologies to anyone I may have inadvertently forgotten to mention)

Genevieve CARRUTHERS
Canberra

REGIONAL NEWS

NEW SOUTH WALES
Metropolitan

Biological and Chemical Research Institute, NSW Agriculture, Rydalmere

Janine Lloyd, of the University of Adelaide, spent a few days in early August with Graeme Baker to discuss mermithid nematodes parasitic on locusts. Graeme and Janine also inspected field sites and sampled nematodes at Oberon.

Graeme was also visited by Dick Dysart, Research Associate with the USDA in Montana, who is looking at the role of *Scelio* egg parasites in the control of pest acridids. Ray Pigott (Dubbo) accompanied Dick on a trip to Western Australia in early September to collect parasitised grasshopper eggs. The egg parasite *Scelio parvicornis* is being considered for introduction to North America to control rangeland grasshoppers. The trip was successful, with large collections of wingless grasshopper eggs being made in the Moora district. Elmo Xavier has transferred to BCRI from Orange and will be working with Graeme Baker on wingless grasshopper.

Our ability to combat European wasp has been dealt a severe blow with the retirement of Dennis Payne, scourge of the European wasp, after nearly 20 years with the Department. Dennis was formerly part of the Argentine Ant Eradication Campaign which closed down in 1983.

Peter Gillespie has established a Wasp Hotline to provide information on the biology and control of domestic wasp pests, particularly the European Wasp. It is hoped that this recorded information service will reduce the time spent repeating basic information to the public over the next summer season. The number (0055 20451) is accessible nationally and costs approximately 70c per minute.

Wasp Hotline
0055 20451

The Institute's local computer network has finally come into existence and the Taxonomy computers are some of the first to be linked. The reprint catalogue, illustrations catalogue and enquiries database are now accessible from anywhere in the Institute.

After a year-long struggle, Victor Rajakulendran has developed a bioassay technique for tomato russet mite (Eriophyidae) and has started monitoring the populations of the mite for resistance. So far, no resistance has been detected indicating that reported control failure is due to application techniques rather than resistance.

Jane Drummond of the Waite Institute spent some time with Gary Levot in October assessing the efficacy of Bt against highly pyrethroid resistant sheep body lice. The encouraging results of this work will be followed up during another visit from Jane later in the year.

Martin Horwood's responsibilities have been reorganised to allow major input into fruit fly investigation. A meeting in Griffith in mid October has initiated coordination between NSW, Victoria and South Australia for publicity, control techniques and export protocols.

Agview '92, the Fantastic Family Farm Show, was held early in October at Camden and featured many aspects of the diagnostic work of BCRI and our role in quality control of farm produce. Peter Gillespie was heavily involved in the preparation of the BCRI exhibit and several entomologists manned the display during the three days of public viewing.

Lin Kimsey, University of California, Davis, spent four days with Graham Brown talking taxonomy and collecting tiphiid flower wasps in the Sydney region before heading off to Canberra.

Department of Plant Pathology and Agricultural Entomology, University of Sydney

Fred McDonald spent a few days in November in Brisbane visiting the Entomology Department at the University of Queensland, and the Queensland Museum.

Next year due to financial stringencies the Department will be fused with several other groups to form a new Department of Crop Sciences within the Faculty of Agriculture.

CERIT
University of New South Wales.

A run around CERIT staff showed that the last three months have been fairly quiet - writing and experimentation have been the major activities,

though Chris Orton found time to visit Canberra in August to discuss the new National Pesticide Registration Scheme requirements with Greg Hooper and Tony Molyneux at DPIE.

CERIT continues to receive requests from overseas students wishing to use the facilities for higher degree research. Unfortunately CERIT is restricted financially and students must be able to support their own work or they cannot be accepted.

Open day at UNSW was in September and CERIT contributed a popular display titled 'Insects Alive (and dead)', which featured lots of live insects in cages and specimens for microscopic examination. As a backdrop we displayed two boards; one depicting our current research projects and another highlighting commercial activities and CERIT's relationship with Unisearch Ltd. These boards have now become permanent exhibits in CERIT's corridors.

Visitors included Dr Greg Simpson, Dr Neil Galbraith and Dr Paul Savage from CSIRO Division of Chemicals and Polymers, who came to discuss collaborative CERIT/CSIRO /projects. Ian McCormick managing director of Elga Scott Trading visited to discuss product development with Chris Orton.

ARE YOU ADEQUATELY COVERED?

Your *Myrmecia* currently includes information on most entomological activity in Australia. This information is provided by the Regional Councillors listed on the cover. The Regional Councillors have contacts in the various institutions in their region who report on activity at their institutions. However, many entomologists work outside the major institutions and if you feel that *Myrmecia* does not cover your work effectively, make a point of providing your local Regional Councillor with a brief report on your work well before the deadline for *Myrmecia* given on page 1 of each issue. The Regional Councillors will then be able to incorporate your report into their regional report to me.

Murray FLETCHER
News Bulletin Editor

School of Biological Sciences, Macquarie University.

Fiona Lewis's work on the biogeography and phylogenetics of slaters is progressing well. A recent trip to Queensland added 10 new species, one of which has the distinction of being the first Australian representative of the Family Rhyscotidae. The Rhyscotidae are known from Africa and South America and are remarkable in that all individuals are protandrous hermaphrodites.

The Aphid Group has welcomed David Wool from the University of Tel-Aviv. David will be at Macquarie for a year, working mainly on the genetics of *Aphis gossypii* in Australia, and would be interested in hearing any accounts of *Aphis gossypii* damage or insecticide resistance. Diana Dean has taken up the cudgels on the aphid mtDNA front as a part time professional officer. Postgraduate students Lilian Blanco and Eren Turak are engaged in thesis writing, and Eren is simultaneously becoming immersed in limnology, if that's the right word for it. There is still a certain amount of turmoil in the basement but the refurbished lab area should be ready quite soon.

Andrew Beattie returned from the U.S.A. and U.K. with varied ant secretions in his search for new bioactive compounds. The search is expanding into stingless bees, Opiliones and termites, the latter in the capable hands of his Professional Officer, Alethe Cruse. He presented seminars on insects as biological resources in the USA and U.K., e.g. Imperial College, Stanford University.

Rod Peakall visited Rutgers University, USA, to acquire molecular techniques for the study of pollination by sexual deceit in orchids. Professor Steven Handel is the U.S. collaborator on this project and will be visiting Macquarie University for six months next year.

Lou Rodgerson and Ros Blanche have just returned from the Ecological Society Meeting held at the Roseworthy campus of the University of

Adelaide. Lou presented a paper on the results of her work on the fate of seeds dispersed by ants using laboratory colonies of *Rhytidoponera metallica*. She is amazed at the increased rate of data collection when working with laboratory rather than field coloniesl Ros presented a paper on insect induced galls on Australian vegetation. This work has found that gall-forming insect species assemblages are more diverse on infertile soils than on fertile soils. In addition the galls are generally more complex on infertile soil vegetation. Both are gearing up for the Post-grad conference held in November each year at Macquarie University.

Henry Bennet-Clark (Oxford) visited in October and gave a seminar on cicada sounds (somewhat pre-empting Max Mould's post grad seminar) and demonstrated how an ordinary camcorder can be used for insect videos.

Noel Tait and Dave Briscoe attended a highly successful Onychophora conference in England. The rest of the world was very impressed with their accounts of the Australian fauna.

School of Earth Sciences
Macquarie University.

Julia Porter (Climate Impacts Centre) is looking at the impacts of climatic change on insects. She has just returned from the U.K. where she had discussions with colleagues at Rothamsted Experimental Station in Harpenden, the Natural History Museum, and the School of Hygiene and Tropical Medicine in London.

Army Malaria Research Unit

Tony Sweeney has been keeping the travel agents busy for the last few months with trips to Heidelberg for the SIP meeting; to China for the ICE; to AFRIMS in Bangkok, where he visited Steve Frances who is there on a two year posting; and to Gainesville U.S.A. for talks with Carl Schreck on mosquito repellents. Tony and Carl are setting up a collaborative study to look at the efficacy of permethrin impregnated Australian and US Army uniforms as protection against mosquito bites.

Bob Cooper and Darren Waterson (on loan from the NSW Forestry Commission) completed a very successful field trip to the Western Province of P.N.G. bringing back several thousand *Anopheles* for identification. This work is being helped along by Des Foley and Joan Bryan of the University of Queensland. Thanks to Nigel Beebe (QIMR) Bob is now using DNA probes at AMRU, and this should make the job of separating the sibling species of *An. farauti* easier.

Liz Brooke is busy with her microsporidia work and in writing up her M.Sc. She is also working with Martin Horwood (BCRI) on an interesting fungus which has been causing havoc with Martin's cockroach colonies.

Visitors to the Unit include : Dr George Soares from the U.S. for talks with Tony on insect pathology; Martin Collett and Ian Riddley from Agrisearch Services who were interested in membrane feeding of mosquitoes and repellents; and Capt. Mike Kupo of the P.N.G. Defense Force who is with us for several weeks training in malarial entomology and parasitology.

Department of Medical Entomology
University of Sydney
at Westmead Hospital.

Richard Russell attended the European meeting of the Society for Vector Ecology (SOVE) in Bologna, Italy, in August and presented papers on Dog Heartworm in southeastern Australia and on Lyme Disease in Australia. After Italy, Richard travelled to England to visit colleagues in Liverpool and London. Back again in Sydney in October, Richard, with Merilyn Geary and John Clancy conducted a workshop on mosquito surveillance, identification and control for officers of the Australian Quarantine and Inspection Service. Later in October, Richard went with Peter Whelan of the N.T. Department of Health, to Mandurah, Western Australia, to assist Tony Wright of the W.A. Health Department present a Course in mosquito vector control for municipal and state government Environmental Health Officers; later in Perth, Richard held meetings with colleagues in the arbovirus laboratory at the Department of Microbiology at the University of Western Australia.

Visitors included Dr Willie Samarawickrema a retired W.H.O. entomologist with a wealth of experience in the epidemiology and control of mosquito borne diseases from postings in the Pacific and southeast Asia; and Dr Charles Calisher, an eminent arbovirologist and currently a Professor of Microbiology at Colorado State University, and previously chief of the Arbovirus Reference Branch and Director of the W.H.O.

Collaborating Centre at the Centre for Disease Control, Fort Collins, Colorado, U.S.A, from 1973 to 1992.

NEW SOUTH WALES
Country areas

CSIRO Cotton and Heliothis Research Units, Narrabri

Gary Fitt organised a Workshop at Narrabri on the "Management of Bt toxins in transgenic plants and conventional sprays". The workshop was attended by about 60 people: researchers and representatives from chemical companies, consultants and cotton grower bodies. Many issues related to Bt research and the management of Bt to avoid resistance in *H.armigera* were discussed. A process to develop and implement a cotton industry Bt toxin strategy was initiated at the Workshop.

The 1992/93 cotton season is well underway. Gina Dillon is continuing her research into factors affecting the mortality of *Helicoverpa* eggs and early instar larvae on cotton. Martin Dillon and Gary Fitt are commencing a large scale field validation of their regional *Helicoverpa* population model, called HEAPS. They will also be collaborating with QDPI entomologists Ian Titmarsh at Biloela and Dave Murray at Toowoomba to validate HEAPS in those cotton growing regions as well.

NSW Agriculture Myall Vale Research Station

Robert Mensah commenced work as a cotton entomologist in July. He comes from Ghana (via the University of Tasmania and CRC for Temperate Hardwood Forestry) and his research will concentrate on integrated pest management options in cotton (particularly for early season insect control.

Neil Forrester has been travelling lately. He attended the Beijing Congress and then travelled through the intensive cotton production areas centred on the Yellow River and Yangste River valleys in central eastern China. En route Neil visited research institutes in Beijing, Liaoceng, Nanjing and Shanghai. During September he travelled through the cotton growing areas of the Mississippi delta. Early November saw him travel to Washington to the International Organisation for Resistant Pest Management (IOPRM) First International Congress for Program Implementation. In his capacity as Chair of the Cotton Working Group, Neil delivered a paper to the various donor bodies present, outlining the IOPRM plans for an Insecticide Resistance Management program for India.

Agricultural Research & Veterinary Centre, Orange

Among the more exciting events to occur as Col Bower and Graham Thwaite emerge from another Orange winter is the changeover to a new phone system at AR&VC. The telephone number is now (063)913800 and fax (063)913899.

Graham attended a meeting in Canberra in late August with several CSIRO colleagues, including David Evans and Richard Vickers, and Victorian counterpart Dave Williams. The group is now working on a "super Codling Moth program" with Stephen Sexton of Biocontrol, Queensland. Meanwhile, Col Bower is in the final stages of an interesting study of Apple Dimpling Bug in conjunction with Dave Williams, Queensland's Frank Page and Bill Woods from Western Australia.

North Coast Agricultural Institute, Wollongbar

Neil Treverrow and John Macdonald are settling in to their new accommodation in what used to be the Tick Research Station. For Neil it must invoke nostalgia, since this is where he started his career with what is now NSW Agriculture. Their move has also led to a change in their phone and fax number, which are now (066)240248 and (066)285680 respectively.

Agricultural Research Centre, Tamworth

Robin Gunning has returned from a visit to Rothamsted Research Station during May-June on an Academy of Science Fellowship to work on resistance biology in *Helicoverpa*.

Since returning, she and John Hosking have visited Canberra, she to talk to Joanne Daly about *Helicoverpa*, he to talk to Jim Cullen.

Yanco Agricultural Institute

Like Orange, Yanco is also emerging from winter [funny about that!], which has been unusually wet. Emerging with the rest of the Entomology Section are two new members:

Margaret Rayner, working on grapevine mites, and Karen O'Malley, working on control of Spined Citrus Bug.

Deserting Yanco for slightly warmer climes, Richard Faulder attended the International Congress of Entomology in Brisbane, where he gave a talk on mouse spiders. On his return trip he visited Neil Treverrow and John Macdonald in Wollongbar, and Mike Gray at the Australian Museum.

Richard FAULDER
Regional Counillor

WESTERN AUSTRALIA

CRC for Legumes in Mediterranean Agriculture.

Jeannie Fortescue has been appointed to the CRC position to mass rear redlegged earth mites (RLEM). She will be working at the WA Department of Agriculture (WADA) with Denis Gillespie, and will also be interacting closely with Kylie Gaull who is studying the biology of mites in J. Ridsdill-Smith's group at CSIRO.

Colin Carr from Andrew Rath's group of DPI in TAS visited JRS, DG and Phil Michael (also of WADA) to discuss methods for rearing and handling mites. They will be using these techniques to investigate mite pathogens in Tasmania.

A RLEM newsletter has been produced, describing current research projects on this pest. Copies can be obtained from JRS, CSIRO Division Of Entomology, Private Bag, Wembley WA 6014.

Health Department of WA

During February 19-23, the Medical Entomology section will be conducting a four-day course in mosquito control for local authority, environmental health officers. The course will be held at the Atrium, Mandurah, and includes lectures on mosquito ecology, mosquito-borne diseases, mosquito control techniques and surveillance techniques. The practical components will include larval surveys, adult surveillance and hands-on identification of samples, as well as group-based presentation of results and analysis in the form of a control program. About 35 people will be attending as well as 14 Environmental Health students from Curtin University. These courses are held every 3 years and are a valuable part of the training component of the RRV control program.

ROSS RIVER VIRUS VIDEO

The Medical Entomology section of the WA Health Department has just completed production of a 20-minute documentary video entitled "Ross River Virus - Prevention is the Only Cure".

Copies are available at $10 each from the Pest Control Unit (09-383 4244). The video covers mosquito ecology, virus ecology, control measures, disease symptoms, prevention of mosquito bites and control of backyard mosquito breeding. It is aimed at the general public, especially to raise awareness about Ross River Virus (RRV) with a view to reducing disease risks.

WA Museum

Dr Harry Baker recently announced his retirement from the field of entomology. He moved his place of residence to a retirement village and has had to part with his private collection of weevils and other insects. The collection will go principally to the ANIC with duplicates going to the WA Museum.

Terry Houston was busy coordinating preparation and transportation of an exhibit ("Insects as Pollinators") on behalf of the WA Insect Study Society during September. It was shown at a wildlife show and a wildlife festival. Between shows, Terry attended a 4-day workshop on Delta software run by the WA Herbarium.

On 22 September, Max Day (formerly of CSIRO, Canberra) visited to assess the cicadellid collection.

As President of the WA Insect Society, Terry Houston has initiated a project to write a booklet on butterfly gardening for Western Australians. He is joined in this task by Tony Oliver, Bob Hay, Andrew Williams and Matthew Williams. The booklet should be ready by Spring 1993.

Curtin University of Technology

As is usual for this time of the year, students are busy with their project reports. Undergraduate reports on termite recolonisation of mines, impact of thrips on strawberries and bird/invertebrate relationships in cleared vs. uncleared forest are shortly to be completed.

Hyean Cheal Park has just returned from a few weeks in Korea, where he has been busy renewing old contacts. He intends to take up employment in Korea when he completes his PhD thesis in February.

Jonathan Majer has also just returned, this time from the Amazon, with numerous vials of ants collected in rehabilitated bauxite mines and uncleared forest. A brief look at the first 10 vials revealed 85 species of ants, a figure that has caused him to leave the summer vacation clear of commitments so that the remaining specimens can be sorted. Whilst in Brazil he met up with formicologists Harry Fowler, Carlos Brandão and Jacques Delabie. A stopover in London on the way back also enabled a visit to be made to Barry Boulton and Donat Agosti at the British Museum.

Edie Allen, from the University of San Diego, called in to Curtin to discuss with Jonathan Majer editorship of the new Journal of Restoration Ecology, of which they are both members of the editorial board. The Journal has a number of invertebrate ecologists on the editorial board and should provide a good avenue for publishing articles on invertebrates in restored ecosystems.

Agriculture Protection Board

Peter Davis and John van Schagen spent 10 days in the Kimberley region of WA to select sites for their Singapore ant control trials. They spent a week in Derby where the ant pest seems to be worst. The Derby shire has organised funding of $30,000 to look into the problem for a year. Peter and John are testing 5 different baits that are currently used in USA to control fire-ants. They also spent 3 days in Kununurra where they discussed Singapore ants with Peter McFadden and Mirex baits for control of *Mastotermes* with Geoff Strickland. The baits have become ineffective at controlling the termites. Peter and John returned to the North in October to set up the trial sites and the extensive sampling program.

The European wasp campaign is still up and running. A big nest was found in August after a queen was caught by a member of the public . The nest contained some 3,600 used queen cells, but only 600 queens were found. A busy wasp season is anticipated this summer.

WA Department of Agriculture

David Cook and the Livestock Entomology section at South Perth are carrying out an unusual study over the next 12 months. They will be determining whether feral goat carcasses in the pastoral areas of WA can support the development of adult sheep blowflies. The feral goat eradication campaign, jointly run by the APB and the Department, has resulted in several hundred thousand goat carcasses being left to rot in the field. Many pastoralists are concerned that the sheep blowfly may be breeding in these carcasses, further threatening their sheep enterprise. The sheep blowfly is an obligate parasite of live sheep and to date has only been shown to breed from sheep carcasses both infrequently and in very low numbers, the main reason being that it is out-competed by the enormous number of native blowfly species that utilise animal carcasses for breeding. Although it seems reasonable to assume that sheep blowflies won't breed in large numbers on feral goat carcasses, we simply do not know if that is the case. Four feral goat and 4 sheep carcasses will be monitored each month for a year at Carnarvon to actually see how many sheep blowflies (if any) can develop from a single carcass.

The dung beetle program (for control of bushflies) has expanded, with the addition of Grant MacDonald, who has been employed for 3 years on Diary Corporation funding. Great success with the newly released Spanish beetle; 25,000 *Bubas bison* have been collected and gone to re-seed 25 new sites in the southwest (1,000 beetles/site).

Françoise Berlandier has completed the 4 year survey of aphids occurring in potato growing areas of the south west of WA. The project aimed at determining the risk of the aphid-transmitted potato leafroll virus in the area. The results will provide a comprehensive list of aphids occurring in the region, and of particular interest, detailed records of the seasonality of 4 native aphid species.

David Yeates, on study leave from the WADA,

completed his 2 year stint at the Museum of Natural History in New York in October, where he has been studying the systematics of Bombyliidae. He will visit the Smithsonian Institute in Washington for a few weeks before returning to Australia early next January.

CALM Wildlife Research Centre

Data from the WWF-funded project examining the impact of fire on invertebrates in mallee-heath habitats in the Stirling Range National Park are now being analysed and written up as a final report. There are some very large databases involved in these analyses, with some 9500 records of the 6 main invertebrate orders studied, about 4000 records of beetle species, together with other large databases on plant floristics and vegetation structure. Matthew Williams (CALM, Como) is assisting with the statistical analyses, and we're getting there, slowly but surely.

Sampling in the Kellerberrin area of the WA wheatbelt is still proceeding. Karin Strehlow (Murdoch University) is undertaking an Honours Project on the impact of fire on the spiders at Durokoppin and East Yorkrakine Nature Reserves. She is making excellent progress, and is currently carrying out some preliminary analyses. Karin is jointly supervised by Gordon Friend and Jenny Davis.

Some further invertebrate/fire work is getting under way in the Jarrah forest near Collie. This will investigate the impact of a large scale high intensity burn being carried out for Ian Abbott's studies on Leaf Miner. The work will also look at the age-old argument of spring vs autumn prescribed burning.

Françoise BERLANDIER
for John VAN SCHAGEN
Regional Councillor

NORTH QUEENSLAND

USDA Biological Control Laboratory Townsville

The laboratory, based at James Cook University, has seen several comings and goings the past few months. Dr Dick Soper (Acting Director - International Activities, USDA Agricultural Research Service) visited Townsville and met with Joe Balciunas (Director), Andrew Moore and other staff to discuss their work on biological control of *Melaleuca quinquenervia* - an important Australian aquatic weed in Florida. Dick and Joe then visited Matthew Purcell (USDA Australian Biological Control Laboratory, Brisbane) at Long Pocket. Joe hand-carried a small colony of the second melaleuca biocontrol candidate (the weevil *Oxyops vitiosa*) to quarantine at Gainesville, Florida, where it will undergo further testing. He went on to present two papers at the 'International Symposium on the Biology and Management of Aquatic Plants' at Daytona Beach.

QDPI - Mareeba and Innisfail

Michael Schmid and Gabrielle Uhl, of the Institute of Biology, Albert-Ludwigs-Universität, Freiburg, Germany, visited north Queensland briefly following the International Congress of Entomology in China. Gabrielle also attended the Arachnology Congress in Brisbane. She is undertaking a PhD on spider reproductive behaviour, while Michael is interested in the systematics of Chrysomeloidea.

Another post-spider meeting visitor from Germany was Jorg Wunderlich (and family). Jorg is a full time teacher working on spider taxonomy in his spare time. He was hoping to examine the cave spider fauna at Chillagoe whilst in the north. David Furth, Museum of Comparative Zoology, Harvard University, visited Mareeba briefly on his way home from the International Congress. David is interested in large Alticinae and their associations with Burseraceae and Anacardiaceae. He was pleased to find several specimens in the Mareeba collection from *Canarium australianum* (Burseraceae), picked up by Harry Fay and Keith Halfpapp several years ago near the Einasleigh River while looking for fruitpiercing moth host plants.

The past few months have seen several visitors from CSIRO Canberra join Paul Zborowski in the CYPLUS trapping and survey work. Included amongst them have been Leigh Miller (termites), Jo Cardale (wasps and bees) and Tom Weir (Gerroidea). Tony Watson has also been in the area collecting termites in rainforest for chemical extraction.

Dale and Phyllis Habeck, University of Florida, Gainesville, left Mareeba mid-September to return to hurricane and tornado ravaged Florida via Alice Springs, Perth and New Zealand. Whilst in north Queensland Dale managed to

collect a range of moths feeding on *Hydrilla*, and some were consigned to Florida for further assessment.

Ross Storey and Paul Zborowski, as well as Ian Naumann (CSIRO Canberra) and Geoff Monteith (Queensland Museum), took part in a Wet Tropics Management conference in Cairns in September which examined the research requirements for various faunal groups in wet tropics areas.

Jeff Watson, formerly of Bugs-for-Bugs at Mundubbera, has launched a scouting service in citrus and papaws in the Mareeba district as part of an IPM project managed by QDPI and funded by HRDC and local growers.

Innisfail-based Richard Piper recently spent 2½ weeks in south-east Queensland with Dan Smith (Nambour) conducting insect faunal surveys in banana plantations.

BSES - Meringa and Tully

Les Robertson has left QDPI and Emerald to take up a position with the Bureau of Sugar Experiment Stations in Tully. Les will no doubt find the gumboot capital more reminiscent of his native New Zealand. He will be working on the population dynamics of cane grubs and sugar cane wireworms, complementing Peter Allsopp's studies in southern cane growing areas.

Queensland Health - Cairns

David Sinclair attended a workshop in Townsville in August concerned with 'Issues for Local Government'. Mosquito borne disease control was the area of particular interest to David and the workshop allowed an exchange of opinions on research objectives etc.

The team in Cairns is gearing up for the forthcoming wet season and indications are that it could be a very active one for vector control measures, and more dengue cases in Cairns and Townsville appear likely.

Harry FAY
Regional Councillor

S.E. QUEENSLAND

QDPI Division of Plant Protection

Gordon Simpson (Toowoomba) visited the Granite Belt Horticultural Research Station recently and while there had time to discuss projects with Frank Page. Both Gordon and Richard Lloyd were involved with a display at the recent Farmfest. The display featured soil fauna and how they are influenced by soil tillage practices. Active, living animals certainly captured more attention than photographed equivalents.

The agenda of Bob Teakle (Indooroopilly) during his study tour in Europe in August included the Society for Invertebrate Pathology AGM in Heidelberg, and Bt, and codling moth GV (Granulosis Virus). Codling moth GV formulations, 'Granupom' (Hoechst, Germany) and 'Carpovirusine' (Calliope, France) will be field-trialled on apples in Queensland and South Australia by Frank Page and Peter Bailey with Bob providing laboratory back-up. The overall research programme aims to reduce pesticide use on pome fruits by 50% by 1996.

IPM - BUGS for BUGS

The inaugural meeting of Australasian Biological Control - the Association of Beneficial Arthropod Producers was held in Mundubbera on September 4. The meeting was attended by the four main producers of beneficial insects in Australia:
Bio-Protection in Warwick, Qld, represented by Richard Llewellyn, Biological Services in Loxton SA represented by James Altmann, Hawkesbury Integrated Pest Management Service in Sydney NSW represented by Anja Hunold and Integrated Pest Management (Bugs for Bugs) in Mundubbera Qld represented by Dan Papacek (see photo).

The group has been established to provide a network between producers of beneficial insects and other associated groups.

Aims of the group are:

- to foster cooperation and liaison between producers and researchers.
- to obtain a profile of its members in the form of a pamphlet or directory which lists the names of the producers, the organisms they produce and any organisms they are looking at producing, both commercially and non-commercially.
- to promote correct usage of beneficial insects and mites.
- to ensure the quality of the product is maintained.
- to develop accurate pesticide susceptibility data.
- to foster cooperation with researchers.

- to encourage the development of monitoring and consultation services.
- to establish a lobby group to address any government legislation which may affect the industry.

Other associated groups attending the meeting included - John Hall from Crop Tech Research in Bundaberg, Paul Horne from the Institute of Plant Sciences (Dept of Food & Agriculture) in Burnley Victoria and Jamie Seymour from CSIRO Brisbane.

On the 28th of September Joe Knapp, a Citrus Extension IPM specialist from the University of Florida, visited the Central Burnett. Citrus growers of the area and other interested people attended a seminar presented by Joe on the Integrated Control of Fire Ants in Citrus.

The Bugs for Bugs Insectary has recently seen the completion of 6 new insect rearing rooms. The rooms are expected to boost beneficial insect production in an endeavour to meeting growing demand for Aphytis & Leptomastix in particular.

Field release of beneficials for use in orchards has commenced for this season.

Bernie FRANZMANN
Regional Councillor

Lands Department
Alan Fletcher Research Station

Graham White, previously of QDPI, has recently taken up a position as Principal Entomologist with the department. Graham is returning to the Alan Fletcher Research Station after a 17 year absence.

CSIRO Long Pocket

Don Sands spent much of September and October in the Southwest Pacific area, with the ACIAR Review team that is assessing the progress of the various CSIRO projects in this region.

Dan Papacek, Anja Hunold, Richard Llewellyn and James Altmann at the inaugural meeting of Australian Biological Control in Mundubbera.

Wendy Forno was also away for most of October, visiting Botswana. This visit is expected to be the last in a consultancy arranged to advise on control of salvinia in the Okavango Basin.

Tim Heard, Tony Wright, Jamie Seymour, Gunter Maywald and Gus Macqueen were involved in preparing and presenting displays at the CSIRO stand at Farmfest near Toowoomba in early September. Division of Entomology displays featured biological control of *Sida* spp. and water hyacinth, a computer interactive program predicting effects of global warming on the distribution of some annual species, and a genetic engineering display from Canberra headquarters explaining the heliothis ID kit and genetically engineered insect viruses.

Mic Julien recently visited Michael Storrs in Kakadu National Park, N.T. Together they set up some experiments to examine the effect of increasing temperatures on populations of *Cyrtobagous salvineae* on salvinia in the area. The weevil is doing considerable damage and has achieved control of the weed in some billabongs but not in others. Extremely high temperatures at some sites are thought to inhibit the weevils.

Two treasury-funded positions will be lost in the Division of Entomology, Long Pocket Laboratories, to allay the current financial problems.

Queensland Institute of Medical Research

A number of new researchers has recently joined the Mosquito Control Laboratory. Dr Scott Ritchie is to head the salt marsh mosquito research, and also plans to establish an extension service for the local authorities, and act as liaison between Queensland's and Florida's Mosquito Control Districts. Michelle Cousineau from the Department of Entomology, University of Queensland, is to undertake Ross River Virus competence studies on *Aedes vigilax*. Zhen Tian-Min, a visiting WHO Fellow from China, will be looking at the biology of the mosquito biocontrol agent *Mesocyclops* sp. starting with their desiccation resistance. Zhen is the Head of the Medical Entomology Division at Shandong Institute of Parasitic Diseases

Craig Jennings has completed his Honours year working on the nutritional requirements of *Mesocyclops* sp. Craig has now been appointed research assistant in the Townsville laboratories.

During August, Brian Kay attended a PEEM (Panel of Experts on Environmental Management for Vector Control) Collaborating Centre meeting in Harare, Zimbabwe. The Panel addresses various public health problems associated with water resource development, irrigation etc.

Michael Brown and Scott Ritchie presented papers at the Aust. Institute of Environmental Health State Conference in September. The entire group has been busy preparing papers and talks for the Sixth Australian Arbovirus Symposium to be held in Brisbane on December 7-11. QIMR is co-hosting the event with CSIRO and the University of Queensland Tropical Health Program.

Griffith University

Elsa Dexter, research assistant on the "Conservation Status of Butterflies" project, will be leaving the University, following her appointment to the Environmental Research Information Network in Canberra. Kelvin Dunne will be continuing the work on this project. Kelvin has recently completed a new book on Australian butterflies. Jacinta Zalucki is soon to commence as a research assistant on the arthropod biodiversity project.

All those involved in the proposed CRC in Tropical Rainforest Ecology and Management have their fingers crossed following news that this project has been short-listed. The final decisions will be made within the next few months.

University of Queensland

Elizabeth Exley is to retire at the end of December, after a 47 year association with the University. Elizabeth has been involved in many different fields of entomology since her appointment as lecturer in the department in 1960. To mark her retirement a special meeting of the Queensland Entomological Society will be held on 14 December (see advertisement next page). Elizabeth will be greatly missed by staff and students alike. We wish her all the best for the future.

December also sees the arrival of the new Departmental Head. Professor Gordon Gourd, presently at the University of California, works in the fields of Hymenoptera taxonomy and biocontrol.

A number of PhD's have recently been awarded in the Department; Marlene Elson-

RETIREMENT FAREWELL FOR ELIZABETH EXLEY

The Department of Entomology, University of Queensland, and the
Entomological Society of Queensland
invite you to the
Society meeting on Monday 14th December 1992.
This will be a special meeting and barbeque dinner
in honour of
Associate Professor Elizabeth Exley
who is retiring at the end of the year.

The meeting will commence at 5.00pm
in the Nickson Room (Music Department),
Zelman Cowen Building, University of Queensland.
A number of Elizabeth's past students will present papers
on some of the fields of Entomology in which she has been involved
since her appointment as a lecturer
in the Department of Entomology in 1960.

At about 6.30pm the meeting will adjourn next door to the
University Staff and Graduates Club
for a barbeque dinner.

Cost of dinner: $17.00

RSVP by 30 November 1992 (for both meeting and dinner)
to Margaret Schneider
Department of Entomology
University of Queensland
Brisbane, Qld 4072
Phone: 07 3652257

Cheques for the dinner cost, payable to E. Exley Farewell, should be sent to M. Schneider. Contributions to a gift are welcome and may be included.

Harris for "A systematic study of Tephritidae based on the comparative morphology of larvae" and Neil Forrester for "Management of pyrethroid and endosulfan resistance in *Heliothis* in Australia". Congratulations to both!

Dave Logan has returned from the Top End to undertake a PhD on the ecology of cane grub pests of sugar. Dave won a scholarship from the Sugar Research and Development Corporation and will be working with Peter Allsopp at the BSES, Bundaberg. Shaun Hood will be heading up to the Top End when he commences his PhD on the effects of predators on cashew nut pests in the Northern Territory. Shaun will be working with Myron Zalucki under a Rural Industry Research and Development Corporation grant. Greg Daniels went insect collecting near Taroom and Isla Gorge during September. Among a good assortment of insects, Greg collected a new genus of a bee-mimicking acrocerid and buckets of the rarely caught Mythicomyiinae, a tiny bombyliid.

Myron Zalucki, Gimme Walter and Melina Miles attended the Australian Cotton Growers Conference and associated workshops held in mid August at the Gold Coast. Myron and Melina also attended a workshop in Dalby on IPM in dryland cotton in early September

Queensland Museum

Geoff Monteith visited Sydney briefly in September to receive a Whitley Award from the Royal Zoological Society of New South Wales for his book on Frederick Parkhurst Dodd which was judged the best in the History Section of the Society's annual book award series (see photo).

Ted Dahms has been seconded for two and a half years to the Public Accounts

Ian Naumann (left) and Geoff Monteith at Taronga Park Zoo in Sydney on August 11 after receiving G.P. Whitley Book Awards from the Royal Zoological Society of NSW. Ian received the overall winner's medal as Chief Editor of Melbourne University Press' "The Insects of Australia" and Geoff won in the historical category for the Queensland Museum's "Frederick Parkhurst Dodd - The Butterfly Man of Kuranda".

Committee,Parliament House, as its Research Director. Helooks forward to this as a new challenge, as a chance to build a useful network within the Public Sector and as an opportunity to gain an understanding of all policy areas of government.

As a cross exchange Dr Kevin Lambkin, Research Director of the Public Accounts Committee has taken over Ted's position in the museum. Kevin has a strong entomological background with tertiary qualifications in entomology. He has been taking advantage of the spring weather to collect alive several species of the scorpion fly genus *Harpobittacus*, hoping to rear these and obtain larvae to solve some of the taxonomic problems in the genus. On another front, Kev has agreed to take over editorship of Australian Entomological Magazinewhen Greg Daniels relinquishes the job at the end of this year.

As part of his wind-down from the very successful 12th International Congress of Arachnology held at the Museum in July, Robert Raven disappeared off to Europe for two weeks in August where, apart from general museum visits, he presented an invited paper to the Hennig Conference in Paris and attended the conference on Pattern and Process at the British Museum.

Phil Lawless heads north in November to service the chain of spider pitfall traps which stretch from Rockhampton to Cooktown and which have been yielding good catches. At about the same time Geoff Monteith, Geoff Thompson and Doug Cook will be establishing a network of pitfall and flight intercept traps in the Mackay region. They will also visit remote South Percy Island, four hours launch trip offshore, in search of more specimens of an apparently new species of 'Cooloola Monster' (Orthoptera: Cooloolidae). A single specimen was picked up there by a visiting Park Ranger last year.

Bob Domrow has retired to private life.

Centre for Tropical Pest Management

The Centre has been busy running workshops recently, including ones looking at pest management in the Lockyer Valley, and addressing integrated pest management for raingrown cotton. These workshops involve scientists, extension officers, farmers and consultants and offer new direction to current research and a cooperative approach between research extension and implementation.

CTPM has recently advertised Postgraduate scholarships in Pest Management. These scholarships are valued at $15000 for three years, with suggested research areas including population dynamics of major insect pests, insect damage and growth of crops and weeds, problems of insect identification, and biocontrol of major insect and weed pests.

Rachel McFadyen is co-ordinating the Centre's first intensive course on biocontrol of tropical weeds, to be held in Brisbane in May 1993. The two week live-in course is aimed primarily at agricultural scientists from developing countries and will give participants a balanced understanding of the theory and practice of weed biocontrol.

A coloured version of a comic, aimed at introducing school children (8-14 years) to the concepts of Integrated Pest Management has been produced. The colourful booklet is a fun way of getting across the message of IPM.

Manon GRIFFITHS
Regional Councillor

SOUTH AUSTRALIA

Crop Protection Department (Entomology Group), Waite Institute

Professor Otto Schmidt attended the EMBO international workshop on insect immunity held in Strasbourg, Germany, in early October. Jörg Kitt has returned from a trip to Europe where he successfully collected the aphidiine parasite, *Aphidinus rosae* in Italy and has established a culture in quarantine at the Waite Institute. Andy Austin has been on study leave since July and has attended the International Arachnology Congress in Brisbane and run a workshop in Malaysia on the systematics of parasitic wasps relevant to biological control.

Janine Lloyd and Kerrie Davies began work on entomophilic nematodes earlier in the year. The project, funded by ABRS, is to examine the distribution and taxonomy of entomophilic nematodes in Australia, with emphasis on potential agents of biological control. So far, work has been concentrated on collection of entomolophilic rhabditids from soil.

Jane Drummond, postdoctoral fellow in the insect pathology laboratory, has recently returned from Sydney where she spent four months

working at the University of NSW's Department of Biotechnology on the fermentation of Bt and at BCRI Rydalmere working on insecticide resistant lice. This successful collaboration will continue for the foreseeable future.

South Australian Health Commission

All is quiet on the arbovirus front following the introduction of human sentinels instead of chickens to monitor Ross River virus activity in the State. Under an initiative by Phil Weinstein, all Red Cross blood donors are now screened for recent arbovirus infection, and hot spots of virus activity can thereby be pinpointed. Education campaigns about anti-mosquito measures and/or larviciding can then be accurately targeted at the areas identified. 1992 was a non-epidemic year for RRV and no reactive intervention was required. The human sentinel surveillance system will remain in place to direct public health intervention in future years. Concurrently, the sera collected have been used to conduct a major seroprevalence study of arboviral antibody distribution by postcode. We hope to have someone correlate these data with mosquito distributions, climatic factors and the presence of reservoir animal populations. If anyone knows a prospective postgrad/postdoc with a predilection for medical entomology/ecology, please contact Phil at the SAHC on (08) 2266369.

Flinders University, Biological Sciences

Mike Bull has recently given talks on ticks at the Ecological Society of America meeting in Honolulu and the Ecological Society of Australia meetings at Adelaide University's Roseworthy Campus. He also attended the meeting on "Individuals, Populations and Patterns" at Norwich, U.K.

South Australian Museum

David Lee has been ill for a couple of months, but is now returning to his desk between short absences for further treatment. David Hirst attended the XII International Congress of Arachnology in Brisbane, where he presented a paper on *Amaurobioides*, although his main interest is still in the huntsman spiders. Visitors have been Julianne Waldock (WA Museum) to examine some genera of jumping spiders and Dave Walter (Monash University) to look at ascid mite types (predators of fruit tree and vine microarthropods).

University of South Australia

Mosquito research at the University has had a shake-up. Laurie Bennett has left the Mosquito Research Group to work on creating a bioassay laboratory. Alan Mead and Grant Fleming's work is mainly focussed on a mosquito predator, a flatworm, *Mesostoma*. Mike Kokkinn continues with physiological and behavioural studies on mosquitoes under the auspices of the newly formed Centre for Advanced Biomedical Studies. According to Phil Weinstein, he is the only person conducting mosquito research in South Australia (frighteningl). Two of his projects: mosquito hormone levels and the effects of embryonic development temperature on subsequent life history of *Culex quinquefasciatus* have been very promising, but nagging little problems have held up the completion of the definitive experiments. Tony Sweeney and Bob Cooper of the Army Malaria Research Unit at Ingleburn, NSW, kindly sent him some *Culex annulirostris* which he now has in culture (ferocious bitersl). A wind tunnel which will be used to investigate host preferences in *C. annulirostris* is currently being designed for him by Mechanical Engineering final year students.

CSIRO Entomology and Soils

There has been much recent media publicity concerning the earthworm research in Adelaide. This media attention has especially referred to involvement in the CSIRO Double Helix Club's "Earthworms Downunder" project in which 2,000+ members are surveying nationally for earthworms, with specimens being mailed through to Adelaide for identification. Trudy Thumlert (former Honours student with Andy Austin at the Waite Institute) has been employed to identify all the material sent in, with most of the funding coming from the National Soil Conservation Program. The media coverage has come at a "cost" with many requests from CSIRO staff to talk to farmer groups in SA and Victoria.

Further earthworm survey work is being conducted in Victoria in conjunction with the Pastoral Research Institute, Hamilton and funded by a new Wool RDC grant. Four technicians, based in Hamilton, are battling the local, foul winter weather to gather data on earthworm abundance along a transect of approx. 200 sites

from Ararat to Port Campbell. These sites have already had their soils and pasture composition described.

Penny Carter is back with the group working on a recently started earthworm project funded by Dairy RDC. This project aims to assess the impact of introducing earthworms (e.g. from Tasmania) on pasture production in SA and Victoria.

Paul Dalley has started as a postgraduate student with Geoff Baker in the CRC for Soil and Land Management, working on the community ecology of earthworms. Peter Stephens has arrived from Ireland as a postdoctoral fellow to work in the CRC with Bernard Doube and Maarten Ryder on earthworms and their role as vectors of micro-organisms.

Geoff Baker, Bernard Doube and Ken Lee have travelled to Europe in recent times, Geoff principally to review progress on the snail biological control project in Montpellier, France, with James Coupland and Bernard and Ken to attend the XI International Colloquium on Soil Zoology.

Primary Industries

Recent Government changes in South Australia have seen the Departments of Agriculture, Forestry and Fisheries combined into a single Department - Primary Industries. Also, there is a strong possibility that the research functions of these previous Departments will be combined into a separate organisation, the SA Research and Development Institute, but this change has yet to be finalised.

At the beginning of October final agreement was reached between the Department of Agriculture and the University of Adelaide for the move of the Department's research groups to the University's Waite Campus. Work has now begun on the first of three major buildings, and planning has begun for the Department's Entomology Group to take up residence in the main Waite building with the University's Department of Crop Protection. As part of this development, the University's Quarantine Insectary will be extended to include a state-of-the-art quarantine glasshouse.

Charma Phillips has recently been appointed Forest Health Scientist for Woods and Forests, Mt Gambier. Amongst other things, Charma is studying insects in eucalypt plantations in the South East.

Margaret Evans and Dennis Hopkins are presently manning the trenches against an incipient outbreak of Australian plague locusts in the northern agricultural districts of SA. Ken Henry took to the air again for the first time after surviving a helicopter crash during the last outbreak, 6-7 years ago.

Peter Birks recently returned from leading an ANZSES (Aust. N.Z. Exploration Society) expedition to the Witjera National Park in the far north of SA. Peter and his group collected insects for the ANIC and SA Museum, including the heavy wingless grasshoppers which inhabit gibber plains.

Private Entomology Sector

James De Barro is employed by Crop Monitoring Services P/L of Keith, in the State's upper South East, as the company's entomologist. CMS specialises in crop protection and management primarily of lucerne seed as well as grain legume, oilseed, clover and coriander crops. Additionally CMS jointly manages the "Success with Dryland Lucerne" project which held the inaugural Lucerne Fair '92 at Keith in September which received huge farmer interest from throughout SA.

James Attman of Biological Services Insectary, Loxton, recently returned from a Churchill Fellowship study of insectaries in US and Canada. James reports that withdrawal of many chemicals in US has created a favourable environment for rational pest control practices, including inundative releases of beneficials.

Vic Szabo recently retired after 25 years with Agchem/Incitec Adelaide. Vic is well known amongst the South Australian pest control fraternity and has recently undergone a conversion to IPM.

Andy AUSTIN
Regional Councillor

VICTORIA

Department of Agriculture,
Institute of Plant Sciences, Burnley
(Please note the latest name for this department - the fourth in less than four years!)

John Osmelak and Anthony O'Toole made a 10-day visit to Papua New Guinea in mid-August, a trip which was not without its problems. However, five days of pouring rain, the theft of

John's camera and extensive hassles in getting chemicals transported from Brisbane to PNG did not deter them from their tasks, which were to further monitor cicadas in coffee crops and to establish an insecticide field trial aimed ultimately at controlling these pests.

Paul Horne paid a quick visit to South Australia late in September to talk to potato growers about potato moth and IPM. Earlier in the month he visited John Hall and Dan Papacek in Bundaberg and Mundubbera to discuss mass-rearing of parasitoids. Then, in October, Paul spent two weeks in the Republic of Yemen helping Yemeni (Ministry of Agriculture) and German (GTZ) entomologists with potato moth control. He was invited there to help establish colonies of parasitoids of the potato moth and assist with field release methods and monitoring. The hectic travelling schedule continues for Paul, as he heads back to Papua New Guinea with John Osmelak on November 1 for more work on the control of cicadas in coffee.

Ian Faithfull, Paul Horne and Andrew Henderson have been consistently foiled by the rain in their attempts to establish a trial comparing different kinds and doses of slug baits on dairy pasture near Wonthaggi. After finding an excellent site and meticulously pegging out the trial in late May, they as yet have been unable to run a tractor on the plots to sow seed and baits. Reports that the cheeky slugs have been using the pegs as high diving platforms may be exaggerated.

Kaye Hergstrom briefly returned to work at Burnley, but has been attracted to Darwin to work in tropical horticulture. With the supply of rain in Victoria apparently endless, presumably Kaye feels that the warm rain of the NT wet season is preferable to the variety we get here. Smart thinking Kaye - we wish you well.

Andrew Henderson has been working on the implementation of IPM in potatoes and has liked the work so much that he will pursue a M.Agr.Sc. (part-time) on the topic at The University of Melbourne, Faculty of Agriculture and Forestry. As part of his IPM work, Andrew is monitoring potato moth numbers in potato crops on the Bellarine Peninsula and also conducting trials comparing different types and heights of pheromone-bait moth traps within the crop. With the prevalent damp weather, very few moths are being caught at the moment; they seem to be having trouble forcing their way into the traps past the snails clogging up the openings!

From September 14 to October 2, Garry McDonald, Mark Smith, Peter Ridland, Peter Cole, Jean Bentley, Annalee Noske and Steffan Howe were all involved in a massive car- and people-shuffling exercise between Burnley and Swan Hill. This was aimed at correlating numbers of migrating *Heliothis punctigera* with numbers of eggs in field pea, faba bean and vetch crops. The field sites were constantly manned and monitored over this period, with the aid of both pheromone and light traps. In addition, night flights of *Heliothis* were observed using infrared-sensitive night vision goggles. Fortunately, the use of this equipment was a novelty to some of the group, distracting them from the fact that the moths were not particularly abundant.

Museum of Victoria
Entomology & Arachnology

The major news from the Museum is that Graham Milledge's employment was not renewed. This means that the Museum is without a technician in Arachnology, and the second Curator's position in Entomology is still unfilled.

Entomology is gearing up, along with Survey, for the "Gargantuans of the Garden" exhibition from the Australian Museum. Both departments plan to undertake teacher workshops under the training of Geoff Monteith.

Museum of Victoria, Invertebrate Survey

Robyn Coy has begun work on forest invertebrates in East Gippsland for 12 months. The project is funded by the Department of Conservation and Natural Resources.

The department recently had a visitor from Guangdong Entomological Institute for 4 weeks. Liao Chonghui is an entomologist specialising in insects of eucalypts planted in China.

By the time this hits the press, both Richard Marchant and Peter Lillywhite will be on Macquarie Island. They will be spending six weeks there surveying aquatic invertebrates.

Andrew HENDERSON
Regional Councillor

AUSTRALIAN CAPITAL TERRITORY

ANU and ANIC

It would seem that winter has gotten the best of most Canberra-based entomologists, with many heading to warmer parts of the world. John Lawrence, for example, spent two months in the United States visiting the California Academy of Sciences (San Francisco), the US National Museum (Washington, DC), the Field Museum (Chicago), and the Bishop Museum (Honolulu). His trip involved sorting a wide range of Coleoptera, as well as collaborating with colleagues and presenting seminars on his beetle larvae Intkey project. He reports success on all fronts, with many people showing strong interest in computerised identification systems. Andrew Calder also vacated Canberra, spending a week in Perth visiting the Western Australian Museum. Andrew says he made much progress during his visit and that he looks forward to his next trip west. Not to be left out, Tom Weir spent two weeks collecting on Cape York as part of the CYPLUS project. He concentrated primarily on aquatic insects, especially beetles, but also picked up other groups as they wandered by.

The Lepidoptera unit has also been on the move recently. Marianne Horak spent a week at The Natural History Museum, London, followed by two weeks at the museum in Karlsruhe, Germany. While in London she did general curation of Lepidoptera, and in Karlsruhe she concentrated on the subfamily Phycitinae. The German museum has one of the larger butterfly and moth collections and provided much valuable and interesting material. Ebbe Nielsen was also in Europe recently, to attend the annual meeting of the .Willi Hennig Society in Paris. After returning to Canberra, Ebbe was off to New Zealand for a meeting of the Council of Australian Museum Directors. On the completion of this meeting, Ebbe decided that it was time for some field work, and, together with Ted Edwards, spent several weeks collecting Castniids in the Perth region. The trip turned out very well with numerous new collections of rare and little known species.

Ian Naumann and Jo Cardale have also been out and about. Ian was in Cairns to attend a meeting on the Wet Tropics, and managed to get some hands-on experience while doing some collecting in rainforests near Mossman. Jo Cardale was also in Far North Queensland, participating in the CYPLUS project with Paul Zborowski. Both trips were highly successful with much progress being made by both Ian and Jo. After his return to Canberra, Ian was off to Sydney to accept the Whitley Medal for the new edition of The Insects of Australia. The Medal is awarded by the Royal Zoological Society of New South Wales for the Best Book on Natural History of Australian Animals (see photo, page 31). More recently, Ian participated in a general review of New Zealand biosystematics with the Review Team of Land Use, Flora and Fauna.

Peter Cranston has spent most of his time this winter looking down a microscope. However, he did manage to attend the Willi Hennig Society meeting in Paris as well as visit The Natural History Museum in London. Both trips went very well, with the "Molecular, morphological and ethological approaches to insect phylogeny" session in Paris being of particular interest. Penny Greenslade was also in Europe recently, attending the Colloquium on Soil Zoology and Apterygota in Finland, and then continuing her Collembola research with colleagues based at the Paris Museum. Since her return to Canberra, Penny has been involved in an invertebrate conservation program concentrating on ACT grassland areas.

David Rentz, Tracy Harwood and Alison Roach have been continuing the base-line studies at Brookfield Conservation Park, South Australia. They spent a week at Brookfield servicing pit-fall and flight-intercept traps as well as generally collecting everything that they could find.

Bruce Halliday's acarology laboratory was thrown into confusion recently by the decision to move into new rooms to house its increasing populations of both humans and mites. The move has now been completed and business has almost returned to normal. Bruce's new telephone number is (06) 246-4085. Bruce also reports that notices for the IX International Congress of Acarology, to be held in Columbus, Ohio, in July, 1994, have been received. Those interested in more information can contact Bruce.

Mary Carver has just received word that she has been awarded the degree of D.Sc. from the University of Liverpool. She plans to attend the awards ceremony in Liverpool later this year. Congratulations Mary.

Activities in the ANIC came to a high point

during the Technical Training Course. Fourteen biologists from throughout Australia spent a week in the ANIC learning all there is to know about collecting, preserving and curating invertebrates. Most of the ANIC staff were involved with planning and presenting material during the course and everyone did their best to pass on tips and trade secrets. All the participants said that they enjoyed the program and hopefully they are now off using their newly acquired knowledge.

In addition to the Training Course participants, several others have visited the ANIC recently. David Furth from Harvard University, spent a week in the Coleoptera unit visiting Andrew Calder and Chris Reid and examining flea beetles. Additionally, Dr. Nobutoyo Koda, from Nanzan University, Nagoya, Japan, has arrived to begin a one year sabbatical working on Australian Arctiinae (Arctiidae) in the Lepidoptera unit.

The entomologists at ANU have been busy lately. Jo Berry has been investigating intra-specific variation in her wasps, and has found that wing setal patterns provide good characters. Unfortunately, wing setae are very small and counting them requires long hours with a microscope and drawing tube. She says that she has a good supply of microscope light bulbs so she doesn't expect any real problems. John Trueman reports that he is enjoying his teaching responsibilities, and that when not lecturing he can generally be found in front of a computer developing new and fascinating ways to quantify relationships among dragonflies. Ting Kui Qin has also been spending long sessions with computers, and has made some unexpected discoveries involving the abilities of programs to determine relationships among his scale insects.

Steve SHATTUCK
Regional Councillor

CSIRO Division of Entomology, Canberra

CSIRO Entomology began the last three month period with the sombre news that budget shortfalls would necessitate the termination of some projects, and redundancy of some staff. While the extent of the effects have yet to be finalised, it is expected that nine staff members will leave the Division within the next few months.

On a less gloomy note, scientific endeavour and associated activities continued in the Division. A field trip in conjunction with the CYPLUS Cape York project gave Lee Miller the opportunity to collect representative series of two species of termites which had previously been known from very small numbers of individuals (in one case, one individual - the smallest number!). Tony Watson attended a joint Asian/Australian Pest Control Conference, and while associated collecting around Cairns, Charters Towers and Townsville was successful, he reports that he failed to recover any specimens despite a thorough survey of Agincourt Reef... When last seen he was setting off to plant incipient colonies around the NSW South Coast, ostensibly to measure colony establishment and growth.

Max Whitten participated in an FAO Panel of Experts on IPM meeting in Rome at the start of September, and from there continued south to visit ICIPE in Kenya, and CSIRO Entomologists in Capetown, South Africa and Perth, before returning to the Bush Capital.

On Wednesday October 21 we farewelled David Evans who, after 20 years with CSIRO, has left the Stored Grain Research Laboratory (SGRL) to take up a secondment with Rural Industries Research and Development Corporation.

Jonathon Banks and Peter Annis have both been at meetings in Washington, Jim Desmarchelier participated in a meeting of the Working Party on Grain Protectants in Melbourne, and Barry Longstaff visited Brisbane to discuss and demonstrate the expert system for insect control in stored commodities with collaborators from QDPI.

The SGRL's philosophy on structural treatments for insect control in storages has now been largely implemented by the Bulk Handling Authorities and Ricegrowers' Co-operative in mainland states. Recommendations include treatment of sealed storages on a selective basis only, general use of "inert dusts"rather than chemical sprays, and monitoring (trapping) with the aim of replacing routine pesticide applications with selective treatments. "Back of the envelope" calculations suggest that these procedures have reduced the use of chemicals by approximately 40 tonnes per year!

Other staff "out-and-about" include Karl Gordon, who attended the Society For Invertebrate Pathology meeting in Heidelberg, and Geoff Foster, Peter Atkinson and John Oakeshott, who are presenting papers at the FAO/IAEA International Symposium on

Management of Insect Pests in Vienna. John will continue on for discussions at ICI(UK), where he will also catch up with Carol Fernon and Peter Christian who are presently working there. Geoff will visit various research centres in Canada and the USA on his way back. John Jaques is currently in Montpellier inspecting progress on the new CSIRO laboratory being built there. Denis Anderson is soon off again to Vanimo and Oksapmin in the West Sepik Province of PNG, where he is making a continuing study of bee mites.

David DALL
Regional Councillor

NORTHERN TERRITORY

Office of the Supervising Scientist Alligator Rivers Region Research Institute

Staff of the Biological Monitoring section have been supervising a number of Honours students on projects relevant to their work. NTU student Rachel Paltridge received First Class Honours - her thesis was entitled "Macroinvertebrate recolonisation of a temporary tropical stream". ANU student Rod Hardwick is believed to be in the final stages of writing up a project on the application of chironomid pupal exuviae to biological monitoring of streams in the ARR.

John Hawking (Murray-Darling Freshwater Research Centre) has submitted his report on the identification of dragonfly larvae from the ARR. Well done John!

Greg Rippon's professional interests have shifted towards the toxicology of microcrustacea. Greg organised a workshop on "Waterflea diet and its effect on toxicity testing" to coincide with a visit by Dr Donald Baird from the University of Stirling, Scotland.

CSIRO Division of Entomology

It's been nose to the keyboard at TERC for Grant Farrell and Mark Lonsdale these last few months. With data from two years accumulating, the cry has gone out - publish. So both are at present more familiar with the hot glow of a VDU than the harsh glare of the floodplains. However, with the first heavy rain of the season dropping up to 25mm on some study sites, thoughts are turning to the coming wet season's field work. The visitation rate at TERC has increased as the dry draws to a close. Mic Julien (CSIRO Entomology, Brisbane) stopped in at TERC in mid August and early October on his way to Jabiru to visit Michael Storrs and the salvinia project. On his August trip Mic spent a day at TERC discussing the future of the project with Mark Lonsdale and Dick Braithwaite (CSIRO Wildlife and Ecology). ASTEC (Australian Science and Technology Committee) was in Darwin in September to discuss research in northern Australia. CSIRO's Long Pocket labs have provided several other visitors recently. Michael Day spent a week at TERC and DPI&F on his way back from leave in Europe. Michael is involved with the rearing and host-plant testing in quarantine of control agents for weeds of northern Australia. His trip to Darwin allowed him to pass on some of his experience to those involved with the mass rearing of control agents at DPI&F, and also to see the type of field work being done at this end of the project.

Veronica Brancotini, her microscope and box of live plants, arrived at TERC in the first week of October with the aim of chasing insect parasitoids. Unfortunately, the *Icerya* species she was collecting from were very heavily predated and parasitoids were rather scarce. Not to be put off, though, she collected green vegetable bugs, fruit piercing moths and anything else that might be of the slightest use.

CSIRO, Division of Wildlife and Ecology

Alan Andersen reports that the Ecological Society conference at Roseworthy was a great success. Ants were once again the dominant faunal group throughout the papers, as befits their role in the Australian environment. Alan's OSS consultancy on the role of ants in minesite restoration is underway, with the first list of ant surveys conducted at 39 sites. Research assistant Scott Morrissin is up to his eyeballs in pitfall traps, and will be for the foreseeable future!

NT Health, Medical Entomology Branch

With the high tides of the late dry season, everyone in the Branch has been busy surveying and controlling the large hatches of salt marsh mosquitoes. The control has been carried out with B.t.i. and has been largely successful, although adequate control was not achieved in one area with dense reeds and dense mangroves and resulted in the phone running hot. Everybody is now looking forward to the arrival of the wet

season and the end of the large salt marsh mosquito hatches.

The annual drain maintenance and extension work has just been completed in readiness for the wet season. The first rains are now testing the latest work. The Branch has also begun an extensive biting midge investigation in a future residential area on the outskirts of Darwin. The numbers of biting midges in the traps have been keeping Gwenda Hayes and Paul Donaldson extremely busy and wishing they had never heard of biting midges.

Peter Whelan assisted with the Western Australian Health Department Mosquito Vector Control Course in Mandurah in late October. Gwenda Hayes attended as a participant and familiarised herself with the Western Australian habitats and methods of control.

A recent loss to the Branch occurred when David Logan moved to Queensland to further his studies. The Branch has a newcomer with the arrival of Ross Nowland, who has previously worked with the Menzies School of Health Research. Ross is now becoming a valuable member of the Branch and is familiarising himself with mosquitoes and the dreaded helicopter survey and control operation.

DPI&F, Weeds Branch

The biological control section recently found to its horror that nobody else in the Department, including the Minister, had any idea who, where or what they do. This despite being, in their opinion at least, the most productive group in the Department. A program of shameless self promotion was initiated, beginning with a Departmental barbecue lunch on the lawn outside the laboratory. Everybody had a great time, learnt a lot and they are now "on the map".

Michael Day (CSIRO Entomology, Brisbane) called in on his way home from a world tour. He was most impressed by the sight of feral mimosa and now appreciates the meaning of his life, the universe and everything in his quarantine laboratory. He gave some useful tips on mating the finicky sesiid moth *Carmenta mimosa*, but unfortunately the first pair emerged just hours after his departure. His advice was sound as subsequent success has been 100%.

Suzanne Gall has joined the group part-time following a stint with *Thrips palmi*, and before that, cashew pests. She will assist Grant Flanagan and Piers Barrow in rearing and releasing as many *Apion aculeatum* mimosa bud weevils as possible during the early wet season.

Carey Smith gave birth at 1pm on Thursday 30 July to Camilla Eve, a bouncing 7lb 10oz baby girl. She is back at work part-time and, with Merrilyn Paskins, is attempting to get *C. mimosa* established at a new site before the rains block access.

DPI&F, Entomology Branch

Thrips palmi continues to dominate the section's activities because of quarantine restrictions imposed by four southern States against some NT horticultural produce susceptible to this pest. The detection of the thrips on one property in the Katherine region has caused much consternation and significant ramifications for produce exported from that area. In attempts to partly overcome the quarantine barriers, the NT has organised a consultant to search for the pest in SE Queensland and northern NSW, and monitoring will commence shortly in the Burdekin, Bundaberg and Ord River horticultural production areas. The rationale behind this move is to query the practice of a State imposing quarantine restrictions without confirming that they themselves are free of the pest concerned. Other work on this insect has included continuation of ecological trials and attempts to disinfest produce using systemic insecticides, fumigation and hot water dip treatments.

After several months of surveys and discussions with orchid growers, an eradication program against the orchid weevil, *Orchidophilus alterimus* has commenced. It appears that this serious pest, which is found in SE Asia, North Queensland and Hawaii, is confined to one property in the Darwin region. The weevil, and the infested property, have been gazetted as a pest and a quarantine area respectively.

Fruit flies have also produced concern with recent detections in Tennant Creek and a current Medfly alert due to infested fruit found in Adelaide.

Deanna Chin and Mike Neal attended the first Technical Training Course conducted by specialists at ANIC in September. Stuart Smith has been kept busy addressing interest groups on a variety of entomological topics, including pests of field crops, citrus, melons, mangoes, orchids, nurseries and annual crops and radio interviews

on thrips, termites and the European wasp detection in Tennant Creek.

DPI&F, Quarantine and Inspection

Hermes Perona reports that on a NAQS survey from the King River to the Gurig National Park fence in October, a nameless botanist discovered a limitation of the location capabilities of a GPS unit. It can't tell you where it is when it's fallen off a quad bike somewhere in the scrub since your last collecting site. All was not lost, though - with the coords of the last stop in the field note book, another GPS unit and an aboriginal guide who pointed out the bike's route, the missing instrument was recovered.

Ted Fenner doesn't have a story to compete with this, but at least he collected a queen European wasp from the window of the conference room in a Tullamarine motel where two meetings on interstate quarantine were held in late September. She is now part of the "rogues gallery" at NTQIB.

NT Museum

The Museum is short on news as Alice Wells is busy preparing for her move to Canberra to join ABRS as Scientific Editor of Zoological Catalogues. Until the appointment of her successor, Jenni Webber will continue alone to contend with the plethora of "build-up" and "wet" season enquiries, and to tend the collection with her newfound skills - Jenni attended the CSIRO's Canberra workshop on curatorial techniques in September.

Veronica Brancotini visited briefly in October and scanned the vicinity of the Museum and the collection for scales. Max Day (CSIRO, Canberra) did likewise for leafhoppers.

Peter DOSTINE
Regional Councillor

TASMANIA

Queen Victoria Museum and Art Gallery

Tim Kingston has continued his involvement in the group set up to advise on rare and vulnerable invertebrates in private forests in Tasmania. The group is currently engaged in finalising the list of species that fall into these two categories. Having made the decision to exclude all species that are insufficiently known to be confident of their status, the final list will be very much shorter than the group's working list of species of concern. Although the list has been drawn up following an initiative from private forestry interests, the group is confident that the list will be used more widely once it is released. The group will remain active to regularly review new information and to revise the list accordingly.

Following previous mentions of the availability of aquatic larvae of insects from NE Tasmania coastal lagoons, sorted to family only, the material has now been largely sorted to morpho-species and would still be available for study. The good work is being carried out by Jane Griffith under funding from the Plomley Foundation. Having discovered how poorly known is the fauna, Jane is now interested in rearing larvae through to adulthood. We would be pleased to hear from anyone with experience of this to share with us.

Louise McGowan attended the first Technical Training Course at the ANIC during September. We are currently updating our methodology in some areas; in others we will not be able to adopt the recommendations due to cost. With regard to databasing, however, Louise (our most proficient user) was gratified to discover that our system, using TITAN, is at least as effective as INFORMIX.

Our programme of data entry is on hold for a couple of weeks while our old computer is transferred from collection management to become part of the history collection. It is being replaced by a Data General machine with 4gb hard disk space and capability to serve 32 terminals. Our operators are waiting with great interest to see if the promise of faster data entry will also be realised.

Tim expects to take delivery of a new 486 personal computer next week to pursue his interest in the use of Geographic Information System (GIS) technology for the mapping of museum specimen records, and for the presentation and analysis of faunal survey data. Initially he will be playing with IDRISI and experimenting with both Landsat and Tasmap base images. Tim hopes that this may be a useful tool for other local as well as interstate collectors to assist in both the planning and reporting of fieldwork and will be used in our education programme. It goes without saying that the early experimentation will be carried out using earthworm distributional data, of which there is

now quite a swag (see below).

Five months of earthworm collection have now been completed under the National Estate Grant for this purpose. Something like 4000 specimens have been acquired from nearly 200 sites. Storage is initially in Decor "Fridge-Freezer-Pantry" plastic boxes, about 50 species lots per box. Options for long-term storage at a reasonable cost posed a problem for a while, but has been largely resolved by the purchase of tall "curry bottles" from Bottle Containers at 45c each. [*Tim sounds like a likely starter for an entomological Tupperware party! - Ed.*]

Department of Primary Industries and Fisheries, New Town Laboratories.

Trevor Semmens has taken on the curatorial role at New Town with the departure of Peter McQuillan to academia. Trevor was the second of the three Tasmanian representatives at the ANIC Technical Training Course and asked for a vote of thanks to be passed back to the team who put the course together. Trevor is also currently concerned with cataloguing Type specimens in Tasmanian insect collections, getting the DPIF collection recognised under the "Taxation Incentives for the Arts" Scheme and the production of a 2nd edition of the "Catalogue of the Insects of Tasmania".

Another of Peter's hats is now being worn by Margaret Williams as she takes over the quarantine work for DPIF. Indeed, it must be "Musical Hats" as Lionel Hill has taken over the "Thrips in Fennel" project from Margaret. Margaret keeps her work on reducing pesticide use in apple orchards and the quarantine control of codling moth. Lionel apparently sheds nothing, which is a shame considering he recently also took over as convenor of the Society's Conservation Committee.

John Ireson and Andrew Rath recently commenced work on biological control research for lucerne flea and redlegged earth mite, operating under funds from the DRDC and MRC.

Forestry Commission

Anna Greene and Dick Bashford have commenced their summer field programme involving research and monitoring of the eucalyptus leaf defoliating chrysomelid *Chrysophtharta bimaculata*. Steve Candy is hoping to join this team for three months to look at consumption rates of *E. nitens* by the chrysomelid.

Two students, James Ayers and Nicola Beauchamp, used their CSIRO Student Research Scheme awards to work with Dick on cerambycid projects for the period July to September.

Not Affiliated

Twelve months ago Bob Hardy left DPIF to work as a consultant in entomology and horticulture and is finding that entomology dominates his time. Current projects include fly control at a large intensive poultry unit, where the Fly Management Simulator developed by North Caroline State University has proved to be a valuable tool; slug management in pyrethrum, now a major crop in Tasmania; and finally, a management programme (shortly to be launched) for the control of currant borer moth, based on mating disruption using pheromones. The latter project is three years in duration and will test two pheromone blends in 80ha of blackcurrants state-wide.

Tim KINGSTON
Regional Councillor

OVERSEAS NEWS

Papua New Guinea

PNG entomologists and other colleagues were saddened to receive the news of the sudden demise of Mr Malchus Arura while on a field trip in Manus Island on 14th July 1992. After a long spell at the Department of Agriculture and Livestock (DAL) Malchus had only recently joined the Forest Research Institute, Lae, as a Chief Entomologist. Much was expected of him and he will be sadly missed.

Dr Vitor Becker, a Brazilian microlepidopterist arrived in Port Moresby on September 10 through the courtesy of Bishop Museum, Hawaii. He called on PNG entomologists in Port Moresby, Bubia and Ramu Sugar and settled down in Wau for a month collecting.

Fred Dori attended a review meeting of the PNG-Australia joint biological control project on banana skipper, held in Brisbane on 18th September. Fred returned very proudly supporting the two volumes of the bible of Australian Entomology.

Bob Prior attended a meeting in Malaysia on *Phytophthora* and allied cocoa pests from 11-

27th September 1992. Bob was much taken in by wonderful biological control being exercised by the ant *Dolichoderus* in Malaysia. He has since been given Room/Major/Leston papers to digest in order to appreciate the enormous work involved in ant introductions.

Samson Laup left DAL after 11 solid years of service to take up, on 7th October, the position of a Senior Entomologist at the Cocoa and Coconut Research Institute, Keravat. He is already immersed in the cocoa pest work.

Amut Sauki (Laloki) and Jan Breithaupt (Bubia) continue to make significant progress in their biological control studies and were visited by GTZ evaluation teams in September and October respectively.

Ray KUMAR
PNG Correspondent

John Tenquist, Overseas Correspondent for New Zealand, has been in Canada and extends his apologies to readers of *Myrmecia* for the absence of a New Zealand contribution.

NEWS FROM AFFILIATED SOCIETIES

Entomological Society of New South Wales

Max Moulds spoke at the August meeting on the morphology, biology and systematics of Australian cicadas. Despite the abundance of cicadas and their interest to collectors, there is still much to be learnt about this group.

Neil Cooper addressed the September meeting on the topic of insect growth regulators. With the development of resistance to conventional insecticides by fleas and cockroaches, insect growth regulators are becoming attractive. However, some concerns about the effect of chitin inhibitors on other arthropods, such as prawns, were expressed during the discussions.

Jack Simpson, a mycologist from the New South Wales Forestry Commission, spoke on fungi associated with insects at the October meeting. The talk was well illustrated and presented a different aspect of forest entomology. All meetings featured a variety of entomological exhibits presented by members.

Graham BROWN
Representative Councillor

Entomological Society of Victoria

The August meeting of the Society was addressed by Peter Cole from the Department of Food and Agriculture's Institute of Plant Sciences at Burnley. Peter spoke about the suite of parasitoids attacking pest noctuids in south eastern Australia, illustrating his talk with slides of the pests, damage to cereal and fruit crops and the major parasitoids.

At the October meeting Alan Yen, from the Museum of Victoria, spoke on his draft national overview for non-marine invertebrate conservation. Alan's project was funded by the Endangered Species Unit of the Australian National Parks and Wildlife Service.

The October meeting also elected David Crosby as an Honorary Life Member of the Society. David has made a significant contribution to the study of Australian butterflies over a 50 year period. His immaculate collection now resides in the ANIC but David continues to study Victorian butterflies and in recent years has undertaken a number of consultancies on endangered species. David, over the last 20 years, has occupied almost every office in the Society and has been a major contributor to a number of the Society's subcommittees. Congratulations David!

Ross FIELD
Representative Councillor

COMING EVENTS

MITE SYMPOSIUM
BCRI, Rydalmere
30 November - 1 December 1992

To mark the visit to Australia of Victor Prasad, the editor of International Journal of Acarology, and to provide an opportunity for exchange of ideas between Australian mite workers, a symposium has been organised for the two days 30 November to 1 December 1992 at BCRI, Rydalmere.

Acarologists are invited to attend the symposium and to present a 20 minute talk on current research and participate in informal discussions on mite research, both basic and applied.

There will be no published proceedings and the contents of talks do not need to be submitted in advance. There will also be no fee.

If you wish to attend, please contact:

E. Schicha
BCRI
PMB 10
Rydalmere NSW 2116
Telephone: (02) 683 9777
Fax: (02) 630 4475

CONFERENCE REMINDER

The 24th AGM and Scientific Conference of the Australian Entomological Society will be held in Cairns 3-8 July 1993.

Full details are provided in the registration brochure which accompanies this issue of Myrmecia.

CONSERVING BIODIVERSITY - Threats and Solutions. 29 June - 2 July 1993

A Conference organised by the NSW National Parks and Wildlife Service to be held at the University of Sydney.

The conference is directed at finding solutions to the crisis we face in stemming the current decline of biodiversity. Organised around the theme of threats to natural systems and species, the conference will seek to review the nature of these threats and the range of solutions available to counter them - from practical management in the field to planning and legislative requirements needed to sustain biodiversity into the 21st century. The proceedings of the conference will be published as a book.

Further details and registration forms are available from:

Lynda Wild, Conference Coordinator
National Parks and Wildlife Service
PO Box 1967
Hurstville, NSW 2220
Tel.: (02) 5856417

NEW PUBLICATIONS

Book Review

A Guide to the Genera of BEETLES OF SOUTH AUSTRALIA Part 6 Polyphaga: Lymexyloidea, Cleroidea and Cucujoidea by E.G. Matthews

The South Australian Museum 1992, 76 pages, 176x250mm, soft cover, ISBN 0 7308 1958 2, Price: $A11.95.

Special Offer: Set of Parts 1-6, $A45.00

The first Guide in this series was published in 1980, followed by others at approximately two year intervals. Part 6 took five years to arrive but was worth waiting for. As Eric Matthews indicates in his introduction, this part of the series includes the most taxonomically diverse and difficult superfamily of beetles - the Cucujoidea. By addressing the task of identification of this group of Coleoptera, Part 6 of the Guide fills a very important gap in taxonomic literature.

This richly illustrated Guide follows the style

used in the previous five parts of this series. The keys to the superfamilies, families, subfamilies and genera use line drawings of taxonomic features at virtually every point of identification. Scanning these drawings enables the taxonomist to proceed to the next choice without having to resort to the written text. Thus the task of identification is much easier and faster. The user is not required to make preparations or dissections, although a binocular microscope is essential. Photographs and drawings of whole beetles are provided with a recommendation to leaf through these pictures first, narrow the search down to families and genera which look about right, then check the list of features of this restricted number of taxa.

Although the Guide is primarily aimed at South Australian fauna, the keys are extremely useful for identification of material from elsewhere in Australia. The author states that, unfortunately, there is no way that the identification of beetles can be made easy but it is to his credit that he has made a significant contribution towards that goal.

A Guide to the Genera of Beetles of South Australia Part 6 is an excellent aid to both professional and amateur entomologists and is a significant contribution to Australian entomology. With Zimmerman's "Australian Weevils" starting to appear, Australian coleopterists have never had it so good!

Alan WESTCOTT
BCRI Rydalmere

MARKET PLACE

Research Request

Castniidae - Sun Moths (Lepidoptera)

During the next two years Ted Edwards, Ebbe Nielsen and Tracy Harwood of the Australian National Insect Collection, with support from CSIRO and the ABRS, will conduct a detailed study of the taxonomy, distribution and general biology of the Australian Castniidae (sun moths). The purpose of the study is to produce the first thorough taxonomic revision of the *c.* 45 Australian species of Castniidae. The study will provide a user-friendly identification manual illustrated with colour plates, summary of their general biology and past and present distribution.

The conservation status of each species will also be discussed: all species appear to feed on native grasses and sedges and many species seem to have declined because of pasture improvement and the use of fertiliser.

Since Castniidae are day-flying and butterfly-like moths, we appeal to butterfly collectors and other entomologists to assist our study with loans of specimens, information about sightings and biology, and by generally looking out for Castniidae during the next year, collecting a short series representing both sexes, if possible. All specimens loaned to us will be returned with identification and all assistance with the project will be acknowledged in the final publication. Please contact us by mail or telephone for more information:

Castniid Project
Mr Ted Edwards
CSIRO Entomology
GPO Box 1700
CANBERRA ACT 2601
Tel: (06) 246 4257
Fax: (06) 246 4000

Carabid Advice Needed!

I have collected a specimen of *Nurus atlas*, from Alstonville, NSW, and currently am attempting to rear "her" (I think). I would appreciate hearing from anyone who may have reared this species (or similar) with regard to feeding, etc.

I can be reached on (06) 272 5070 (w) or (06) 258 6667 (h).

Genevieve CARRUTHERS
Canberra

Australian Entomological Society
RESEARCH GRANTS

CALL FOR APPLICANTS

The Executive takes pleasure in calling for applications for the Australian Entomological Society Research Grants for 1993. The Scheme is intended to encourage the advancement and dissemination of entomological knowledge, particularly in relation to the Australian fauna. Grants may be given for items such as travel, equipment or technical support.

The Grants are primarily for small, short-term projects and will be available only to financial members of the Society of at least 12 months standing. Groups will be eligible provided that the primary researcher is a member. Total funds available will be in the order of $1,000. A report to the Executive in a form suitable for publication in *Myrmecia* will be required by the end of 1994.

The application should clearly state:

✧ the aim of the project ✧ the expected duration of the project
✧ a detailed budget ✧ your contact address and telephone number

You may also supply the names of one or two referees if you wish.

The President will appoint a selection committee to allocate and administer the grants. Applications may be for any amount up to $1,000, but remember that small, short-term projects which enable a diverse range of work to be funded will be favoured. Successful applicants for 1993 will be advised in June.

Five copies of your application should reach the Secretary at the following address no later than 30 April 1993

Dr Paul Madge
AES Honorary Secretary
c/- Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond SA 5064

Insect Illustration Competition 1993

"A competition to encourage and recognise high standards of entomological illustration"

The Society invites unpublished entries to this competition which will be judged and displayed at the AGM and Scientific Conference to be held in Cairns in July 1993. The competition is open to members of the Society who are not employed or contracted as professional illustrators for fee or reward.

Entries, up to three per entrant, must be either black and white or coloured, whole body (dorsal or lateral views) taxonomic illustrations of insects or allied forms, such as shown in *Insects of Australia*. The mounted illustrations should not exceed 21 x 30cm (approx. A4 size) and must be suitable for reproduction after reduction by 50%.

The Society shall have the right to display selected works in public and to reproduce the illustrations, with appropriate acknowledgment, on Society goods which it sells, and in magazines for a fee.

Entries must be in the hands of the Convenor of the AGM by the end of April 1993. Postal entries must be carefully packed and included stamps or postal order sufficient to cover the cost of return postage, where necessary.

Categories:
- Student section - Colour
- Student section - Black and White
- Open section - Colour
- Open section - Black and White

The Society will award monetary or other prizes for First and Second prize in each of the four categories.

Name of Entrant: . . . . . .

Address: . . . . . .

Category of Entry(s): . . . . . .

Scientific Name of Insects (preferable) . . . . . .

Forward this form, with your entries, to

Mr Ross Storey
Convenor, AES 24th AGM & Conference
Queensland Dept of Primary Industries
PO Box 2054
Mareeba QLD 4880

Australian Entomological Society

PHIL CARNE PRIZE 1993

This Award for scientific writing is open to **students who have not yet gained their PhD by 3 July 1993.** Entrants need not be members of the Society.

Submissions should be in the form of a scientific paper of 5000 words or less, on entomological research.

Entries will be judged by a committee of senior entomologists appointed by the President of the Society.

The winner will receive $250 cash and will be invited to present the winning paper at the AES Scientific Conference to be held in Cairns on 3-8 July 1993. The Society will provide free conference registration, accommodation in Cairns and a return economy air fare from the winner's home State.

Please indicate your intention to submit an entry by completing the form overleaf and returning it to the Secretary by **1 April 1993.**

Three copies of the paper, one and a half or double-spaced, should be in the hands of the Secretary, at the address given below, by the end of May 1993.

Dr Paul Madge
AES Honorary Secretary
c/- Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond SA 5064

Australian Entomological Society
PHIL CARNE PRIZE 1993

This is to advise that I intend to submit a paper on original entomological research for consideration for the Society's Phil Carne Prize in 1993.

My name is: . . . . . .

My postal address is: . . . . . .

. . . . . .

My paper will deal with (tentative title acceptable): . . . . . .

. . . . . .

I am (or was) a student at (name of Institution): . . . . . .

. . . . . .

My Supervisor's name is (or was): . . . . . .

My current professional qualifications are: . . . . . .

. . . . . .

I will forward 3 copies of my entry to reach you by 31 May 1993, and acknowledge that a paper which is not received by that date cannot be accepted for judging.

Signed: . . . . . .

Date: . . . . . .

Return completed form to:

Dr Paul Madge
AES Honorary Secretary
c/- Dept of Crop Protection
Waite Campus
University of Adelaide
PO Glen Osmond SA 5064

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Fax (09) 368 2958

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